DRAINAGE PRODUCTS CATALOG

March 2003

NDS

One source. Many solutions.

THE BEST SOLUTION: THE ONE SOURCE.

Over 20 years ago, NDS began producing plastic drainage and landscape products. From the beginning, our commitment to leading the industry has been unwavering, leading to remarkable innovations and state-of-the-art products that fit every environment, every schedule, every need.

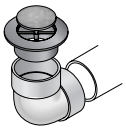
Today, our commitment to providing one-source solutions has led to the development of superior quality drainage products, landscape products, fittings, valve and meter boxes, equipment pads, and drip and micro irrigation products. No product is added to our line without meeting exhaustive testing and extensive research requirements. Plus, NDS is uniquely able to offer our complete inventory of products from regional warehouses in the US and Puerto Rico. Our goal: one-business-day delivery. Our track record: outstanding.

Take a moment to look through this catalog, noting the depth of our product offering. If you have any questions or to place an order, just call 1-800-726-1994 from 5 a.m. to 5 p.m. PST. and let us offer the best solution for you.

NDS

TABLE OF CONTENTS

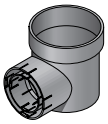
FLO-WELL 2-4



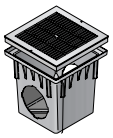
POP-UP EMITTERS 5

BRASS & CHROME GRATES 8-10

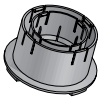
ROUND, ATRIUM & SQUARE GRATES 10-14



SPEE-D BASINS 14

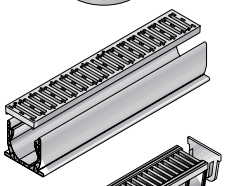


CATCH BASINS & GRATES 15-22

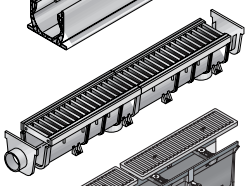


CATCH BASIN UNIVERSAL OUTLETS 23

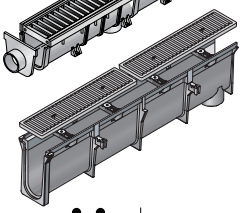
DURACAST GRATES/CATCH BASINS 24-28



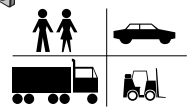
PROFILE CHANNEL DRAINS 31-36



MODULAR PRO SERIES CHANNEL DRAINS 37-44



DURA SLOPE PRE-SLOPED CHANNEL DRAINS 45-50



LOAD RECOMMENDATION GUIDE 51

MARKETING MATERIALS 52-53

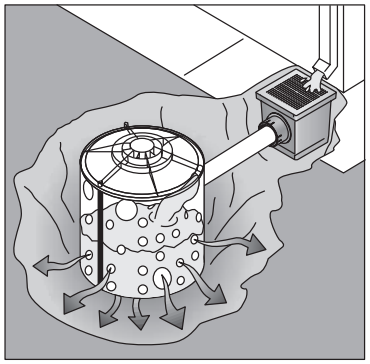
WARRANTY AND TERMS Back Cover

Note: All dimensions are nominal. All weights are for shipping purposes only.

Introducing the New Flo-Well® Storm Water Leaching System.

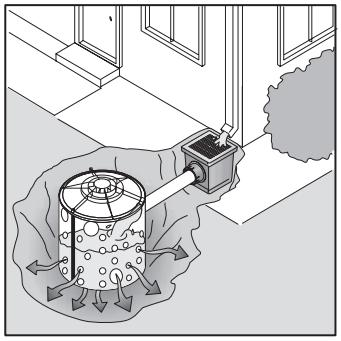
With the Flo-Well, water can now be discharged into the subsoil rapidly and easily. Unlike competitive systems, there is no need for piping systems to transport stormwater to a far-off discharge point, large heavy equipment, considerable excavation of current landscaped areas, nor large labor costs that those systems incur. With Flo-Well, water dispersion is now easier than ever.

Go to www.NDSPRO.com/FloWell.asp for an easy to use online calculator that determines how many Flo-Wells are required to meet your drainage needs.

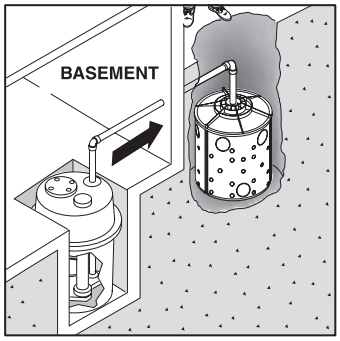


Discharge Stormwater into Subsoil

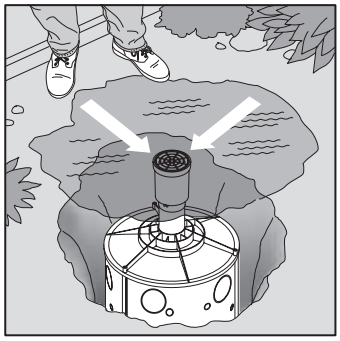
Current Applications



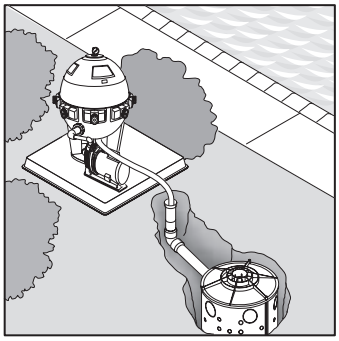
For gutters and downspouts



Install with sump pumps



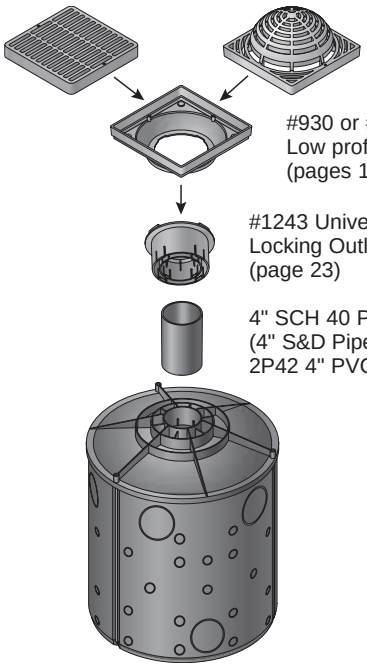
Eliminates puddles



Pool backwash tank

Flo-Well should be placed at least 10 feet from a structure or foundation.
Flo-Well should be piped to rain gutters using a 9”or 12” catch basin below each downspout outlet (see diagram above). Proper drainage can be visually monitored, assuring that leaves and debris have not clogged the downspout.

Options



Ideal as a stand-alone drain:
- Disturbs only 4 square feet of turf to install.
- Requires less than 10 cubic feet of soil removed to bury.
- Measures only 24” in diameter by 28.75” high.
- Weighs only 22 pounds.
- Holds over 48 gallons!

Or, connect to existing system for increased drainage capabilities.

Ideal as a stand-alone reservoir:
- Collect and hold rainwater for lawn and garden irrigation. (used with a pump connected to a garden hose).
- Connect Flo-Well to rain gutters using a catch basin & grate below each downspout (see drawing above).
- Ideal solution for arid areas impacted by drought.

Larger 9" or 12" grates can be added to Flo-Well to manage surface water. This option is ideal for draining:

- Golf Course areas prone to puddling.
- Playground areas under slides and swings.
- Outdoor drinking fountain runoff.
- Outdoor showers at beaches.
- Wash down areas.

Note: All dimensions are nominal. All weights are for shipping purposes only.

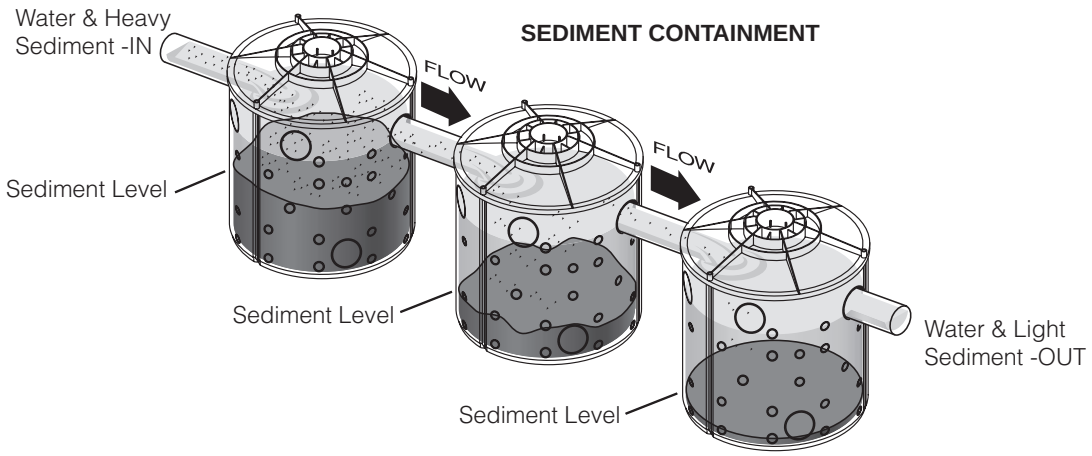
Flo-Well® Solutions for stormwater retention and discharge elimination

New stormwater regulations extend to projects disturbing more than 1 acre and mandate stormwater retention and discharge elimination requirements for these projects. Regulations and permits now cover “any method of conveying surface water, including streets, gutters, ditches, swales, or any other manmade structure that alters and/or directs wet-weather flows”. These regulations impact:

- Construction Site Runoff Control
- Post-construction Site Runoff Controls

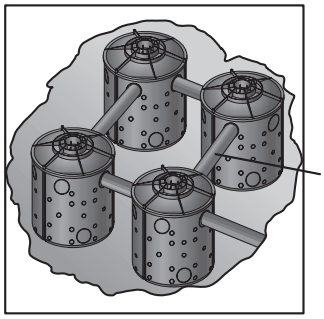
And NDS offers solutions for Best Management Practices (BMPs).

Construction Site Runoff

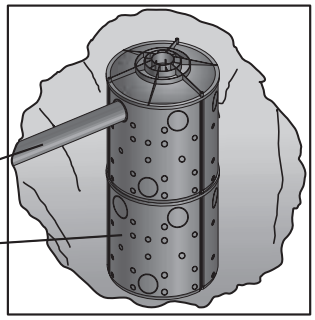


Post-Construction Site Runoff

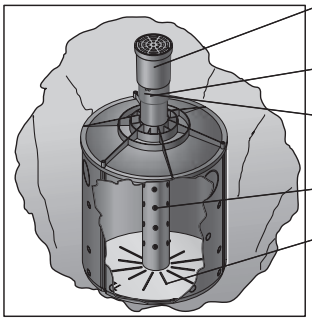
*Consult local permitting authority for details



Can be connected



Can be stacked



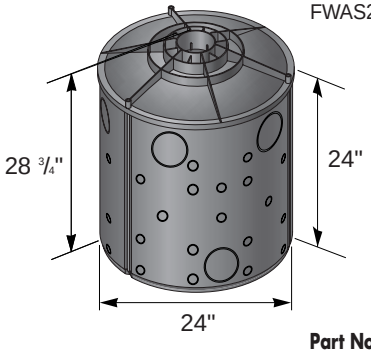
Can support heavy loads

Flo-Well offers on-site solutions to retain stormwater and discharge it into the subsoil:

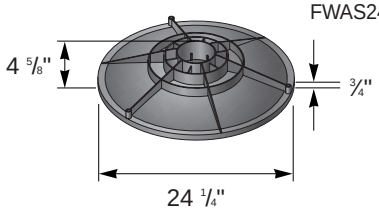
- Complies with new stormwater regulations.
- Installs without the need for heavy equipment.
- Cost effective solutions.
- Helps to replenish ground water table levels.

Note: All dimensions are nominal. All weights are for shipping purposes only.

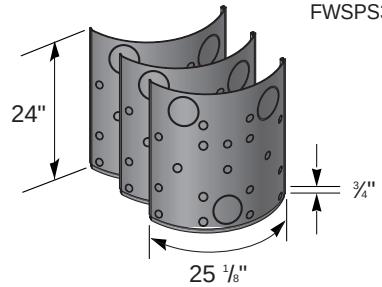
FLO-WELL® STORM WATER LEACHING SYSTEM



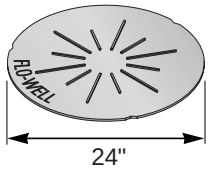
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
FWAS24	24" diam. x 28.75"H Flo-Well® Storm water leaching system Includes 3 side panels, 1 Top Component Fits 4" SCH-40 Pipe and 4" DWV Pipe	Black	1	25.15	122.34	10FW	NDS #FWAS24 structural foam polyolefin round drywell system with UV inhibitors. 24" dia., 28.75" high, 49 gal. with 18- 1.5" Knockout leaching ports and 3- 4.5" knockout inlet/outlet ports per panel.



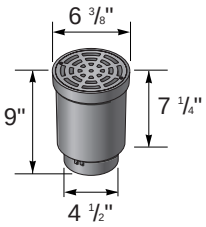
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
FWAS24C	24" diam. Flo-Well® Cover Use with #FWAS24	Black	2	8.00	37.45	10FW	NDS#FWAS24C structural foam polyolefin round drywell system cover with UV inhibitors. 24 1/4" dia., 4 5/8" height, 3/4" outer lip, 4.5" center knockout fits NDS #FWAS24, NDS #FWSPS3.



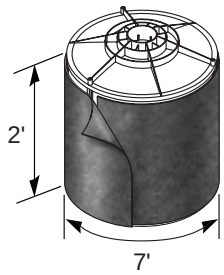
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
FWSPS3	Flo-Well® Side Panels/ Extension Only Includes 3 side panels; makes 1 round drywell. Fits #FWAS24 (May also be used as a durable compost bin.)	Black	1	5.00	84.89	10FW	NDS #FWSPS3 structural foam polyolefin side panels with UV inhibitors with 18- 1 1/2" knockout leaching ports and 3- 4.5" knockout inlet/outlet ports per panel. 24" high with recessed .75" lip for firm stacking.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
FWBP24	24" diam. Flo-Well® Bottom Fits #FWAS24	Black	5	3.50	27.47	10FW	NDS #FWBP24 structural foam polyolefin round Flo-Well® bottom with UV inhibitors. 24" diameter with six 1 1/2" leaching ports. 4.5" center knockout for strut coupling.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
FWSD69	4" SCH40 Surface Drain Inlet with Grate Fits #FWAS24 and #FWAS24C	Black	8	1.85	32.46	10FW	NDS #FWSD69 structural foam polyolefin 6" grate with 4" inlet with UV inhibitors. 6" Diameter at inlet. 9" high. 4.5" OD fits Sch. 40 PVC fittings.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
FWFF67	Porous Filter Fabric Wrap for Flo-Well® Use with #FWAS24	Black	20	0.35	7.50	10FW	7' long x 2' wide to surround Flo-Well® Drywell System. Non-woven fabric. Weight 1 oz. Mullen burst 175 psi. 200 GPM flow through.

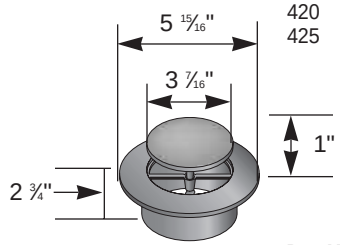
Note: All dimensions are nominal. All weights are for shipping purposes only.

The Pop-Up Drainage Emitter is easy, safe and an efficient solution.

It allows water to be diverted and released to water-safe areas away from structures, erosion-prone landscapes and poor drainage areas.

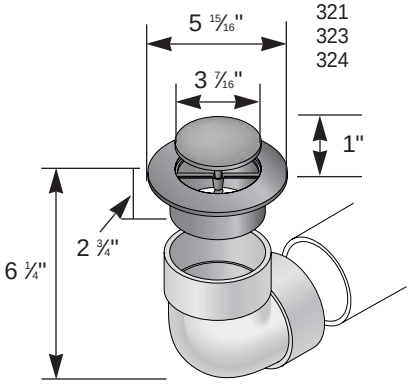
- It allows water captured by grates, catch basins, channel drains, Flo-Well, downspouts and roof gutter systems to flow through the drainage pipe and away from structural foundations to safe or useful areas. For example, water can be routed from a low area next to a foundation to a water safe area such as a curbside drainage system.
- It is opened by the hydrostatic pressure of water flowing through the drain pipe. As flow diminishes the emitter closes again. The special patented design allows the Emitter to open with a negligible amount of pressure. Since the Emitter is closed during dry weather, debris and rodents cannot enter the drain pipes.
- It does not rise high enough to interfere with mowers.
- It blends into the surrounding landscapes.

Allows water to flow to street without core drilling the curb.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
420	3" & 4" Pop-Up Drainage Emitter	Green	20	0.28	11.36	10ND	NDS #420, #425, 3" and 4" Polyolefin Pop-Up Drainage Emitter, Center Drive Pop-Up with UV inhibitor.
425	3" & 4" Pop-Up Drainage Emitter	Black	20	0.28	11.36	10ND	

Fits 3" and 4" hub Sewer and Drain Fittings



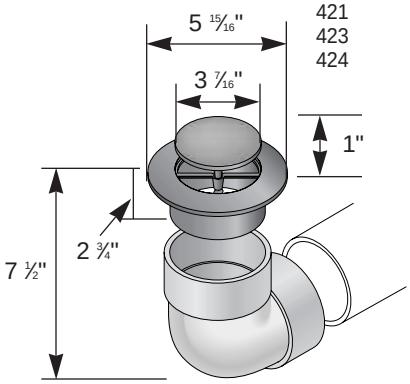
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
321	3" Emitter with Elbow	Green	25	0.60	14.30	10ND	NDS #321, #323, #324, 3" Polyolefin Pop-Up Drainage Emitter, Center Drive Pop-Up with UV inhibitor, PVC 90 degree elbow with 1/4" Drain hole.
323	3" Emitter with Elbow	Black	25	0.60	14.30	10ND	
324	3" Emitter with Elbow and Corrugated Pipe Adapter	Green	20	0.70	16.91	10ND	

May be used with Flo-Well to relieve overflow.

NEW Spring Loaded Model - available June 30, 2003

Can now be installed in vertical applications - ideal for discharging water from retaining walls and street curbs

Spring automatically retracts - prevents damage from lawn mowers.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
421	4" Emitter with Elbow	Green	20	0.85	17.68	10ND	NDS #421, #423, #424, 4" Polyolefin Pop-Up Drainage Emitter, Center Drive Pop-Up with UV inhibitor, PVC 90 degree elbow with 1/4" Drain hole.
423	4" Emitter with Elbow	Black	20	0.85	17.68	10ND	
424	4" Emitter with Elbow and Corrugated Pipe Adapter	Green	15	1.00	20.29	10ND	

May be used with Flo-Well to relieve overflow.

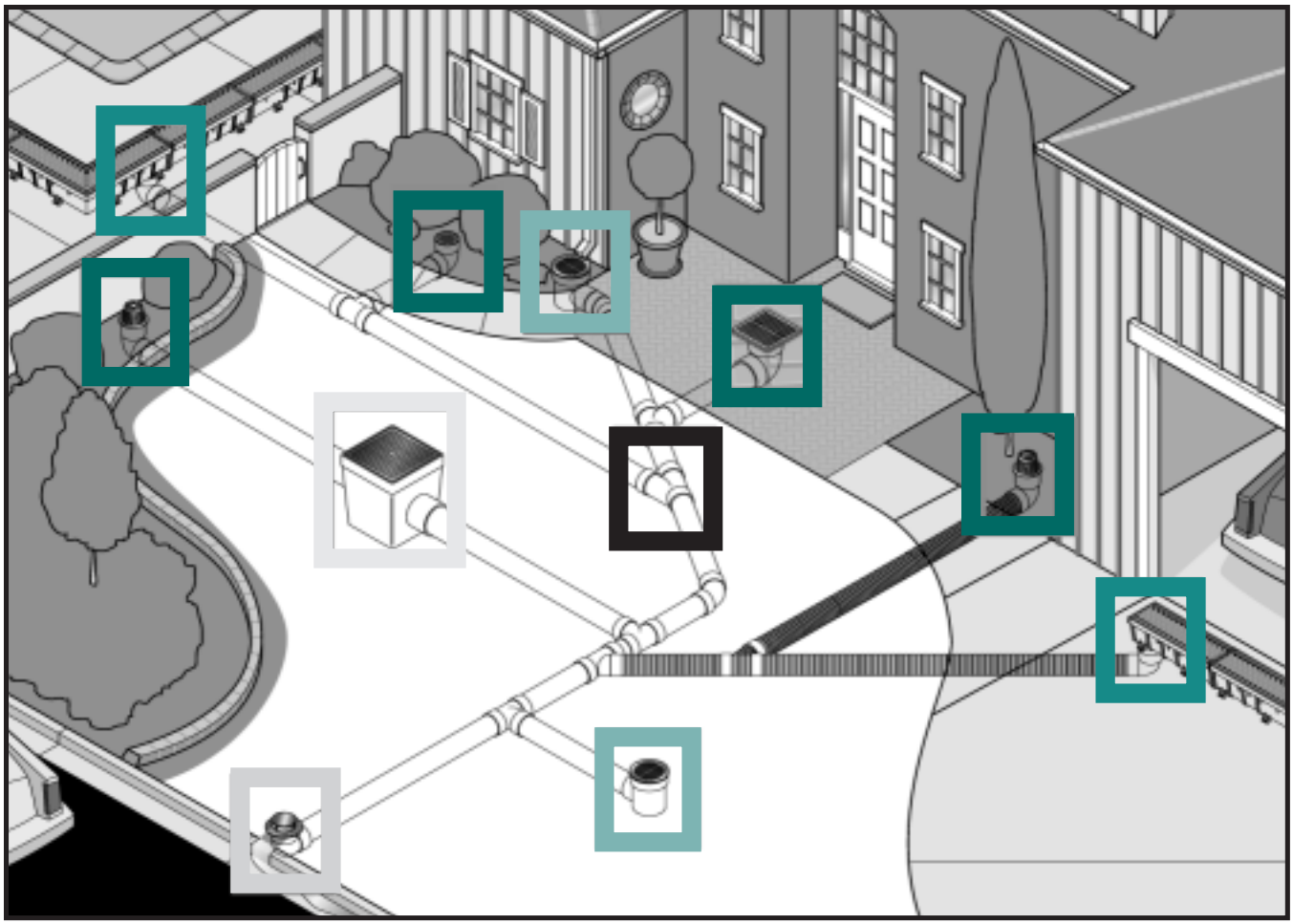
NEW Spring Loaded Model - available June 30, 2003

Can now be installed in vertical applications - ideal for discharging water from retaining walls and street curbs

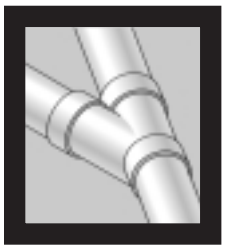
Spring automatically retracts - prevents damage from lawn mowers.

Note: All dimensions are nominal. All weights are for shipping purposes only.

NDS CATCH BASINS AND GRATES

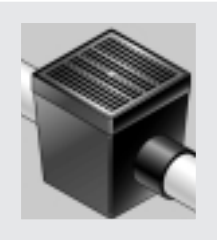


- Eliminate standing water and flooding on paved areas and lawns.
- Easy to install, sized to fit your project with catch basins from 6" to 24" and grates from 2" to 24".
- Prohibits structural damage to building foundations.
- Choose from a wide variety of products to fit every need.



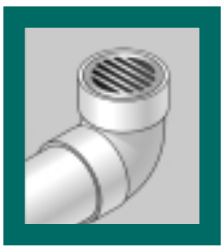
Sewer and Drain Fittings for piping systems and downspouts. See NDS Fittings Catalog.

Channel Drains for driveways, pools, spas, patios, sidewalks and wash-down areas. See pages 29-50.



Large Catch Basins for large lawn or landscape areas, residential driveways and garages. See pages 15-23.

Small Catch Basins for lawn and landscape areas. See page 14.



Small Round, Square and Atrium Grates for small lawn and landscape areas, patios and atriums. See pages 8-14.

Pop-Up Emitters for discharging water on the surface. See page 5.

Materials and Standards

- Ultraviolet-resistant one-piece injection-molded structural foam polyolefin for maximum strength.
- Also available in brass, chrome and other materials.
- Installed properly, some plastic grates are suitable for light vehicular traffic, plus we offer cast iron and steel grates for heavier applications. Standards vary per product: see individual product section for details.

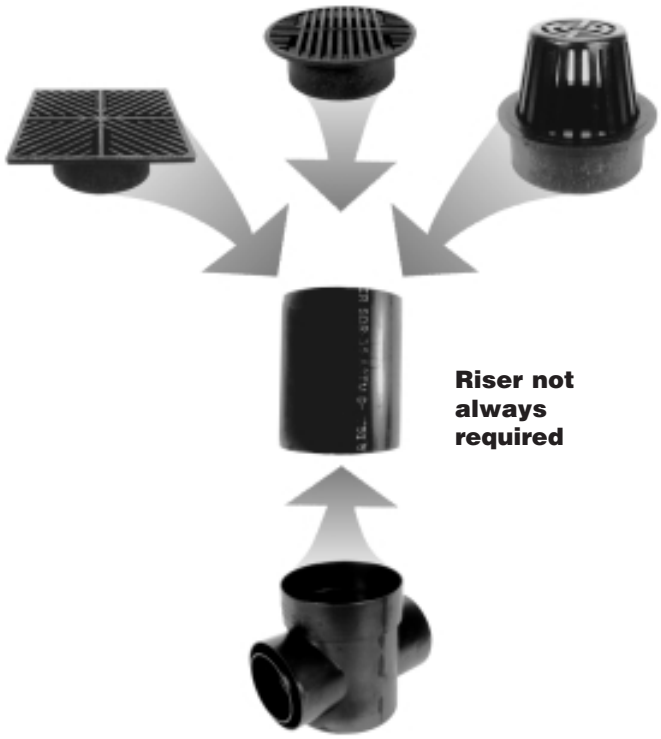
Note: All dimensions are nominal. All weights are for shipping purposes only.

For customer service, please send your fax to: 1-800-726-1998 or call 1-800-726-1994.

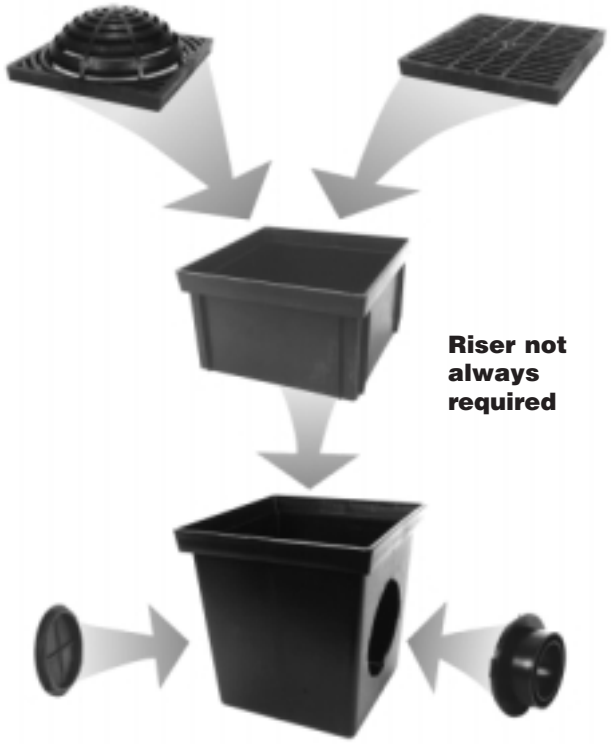
NDS

SMALL GRATES

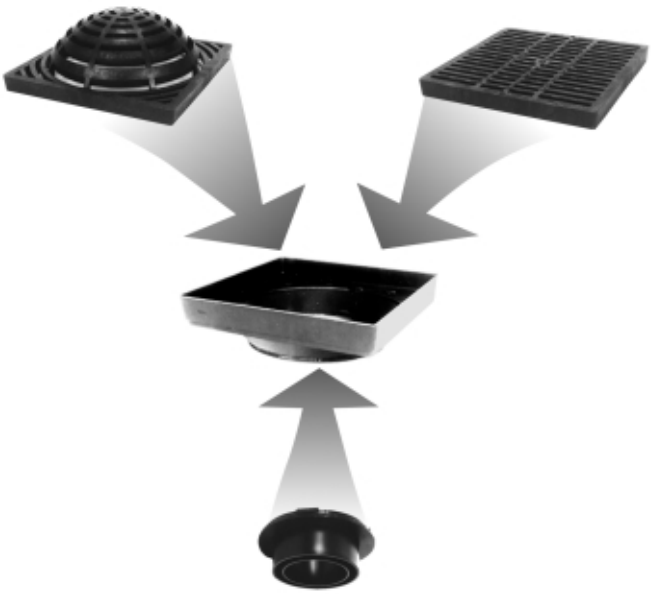
SPEE-D BASIN



LARGE CATCH BASIN



ADAPTER



Note: All dimensions are nominal. All weights are for shipping purposes only.

BRASS AND CHROME GRATES

NDS is committed to providing the highest quality solutions for your drainage problems. We use the highest quality brass. Our brushed satin or polished finish is protected by a clear film that prevents damage to the finish during shipping and installation. Try this exciting concept in drain grates for your next installation where quality and aesthetics are a must!

Strong–Practical-Functional

Our solid cast brass grates are secured to PVC collar with solid brass screws. The PVC collar can be solvent welded into sewer and drain fittings or pipe where permanent, anti-theft installation is desired. The grate can still be removed for easy cleanout.

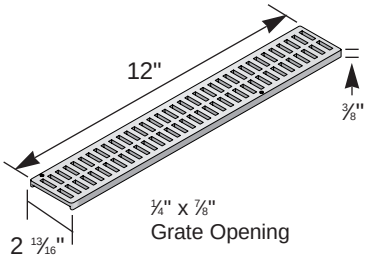
- A unique mix of beauty and function.
- Recommended for highly-visible entry areas in hotels, malls, office buildings, country clubs and estates.
- Grates are removable from collars for easy clean-out.

Details

- Solid cast brass grates are secured to a PVC collar with solid brass screws for aesthetics and reliability.
- Collar can be solvent-welded onto sewer and drain fittings or pipes.
- Exceptional construction and fine finish also make these grates ideal for deck areas, walkways, swimming pools and spas.

Materials and Standards

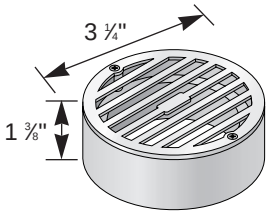
- Made with the highest-quality solid brass.
- Brushed Satin and Polished Chrome finishes are protected by a clear coat that prevents damage to the finish during shipping and installation.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
552B	1 ft. Brass Channel Grate	Satin Brass	12	1.25	52.14	25PF	NDS #552B or #553PB, 1 foot Mini Channel Solid Brass Grate with brass screws. Open surface area 10.00 square inches per foot. 13.10 GPM per foot.
553PB	1 ft. Brass Channel Grate	Polished Brass	12	1.25	54.26	25PF	

Fits #500 and #550 Mini Channels. (See page 32.)

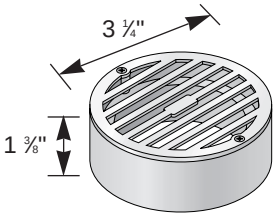
(See pg. 51)



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
909B	3" Round Brass Grate w/PVC Collar	Satin Brass	20	0.40	14.68	15BR	NDS #909B or 905PB, 3" Round Solid Brass Grate and Brass screws with PVC collar. Open surface area 2.44 square inches. 3.20 GPM.
905PB	3" Round Brass Grate w/PVC Collar	Polished Brass	20	0.40	22.10	15BR	

Fits 2" SCH-40 Pipe and 3" Sewer and Drain Fittings.

(See pg. 51)

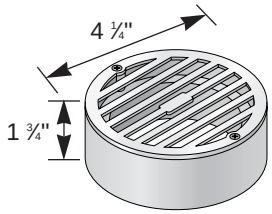


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
915SC	3" Round Chrome Grate w/PVC Collar	Satin Chrome	20	0.40	11.50	15BR	NDS #915SC or #907PC, 3" Round Chrome Grate and screws with PVC collar. Open surface area 2.44 square inches. 3.20 GPM.
907PC	3" Round Chrome Grate w/PVC Collar	Polished Chrome	20	0.40	17.22	15BR	

Fits 3" Sewer and Drain Fittings and 2" SCH-40 Pipe

(See pg. 51)

Note: All dimensions are nominal. All weights are for shipping purposes only.

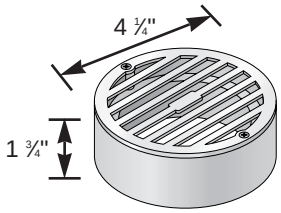


¼" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
910B	4" Round Brass Grate w/PVC Collar	Satin Brass	20	0.70	16.72	15BR	NDS #910B or #906PB, 4" Round Solid Brass Grate and Brass screws with PVC collar. Open surface area 5.25 square inches. 6.88 GPM.
906PB	4" Round Brass Grate w/PVC Collar	Polished Brass	20	0.70	27.86	15BR	

Fits 3" Sewer & Drain Pipe, 4" Sewer & Drain Fittings.

(See pg. 51)

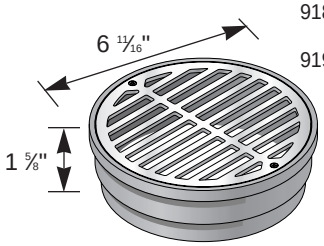


¼" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
917SC	4" Round Chrome Grate w/PVC Collar	Satin Chrome	20	0.70	12.43	15BR	NDS #917SC or #908PC, 4" Round Chrome Grate and screws with PVC collar. Open surface area 5.25 square inches. 6.88 GPM.
908PC	4" Round Chrome Grate w/PVC Collar	Polished Chrome	20	0.70	21.53	15BR	

Fits 3" Sewer & Drain Pipe, 4" Sewer & Drain Fittings.

(See pg. 51)

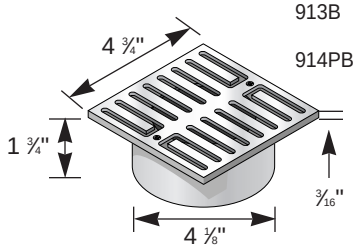


⅜" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
918B	6" Round Brass Grate w/Styrene Collar	Satin Brass	8	1.38	44.08	15BR	NDS #918B or #919PB, 6" Round Solid Brass Grate and Brass screws with styrene collar. Open surface area 13.15 square inches. 17.23 GPM.
919PB	6" Round Brass Grate w/Styrene Collar	Polished Brass	8	1.38	44.71	15BR	

Fits Spee-D Basin, 6" Sewer & Drain Pipe & Fittings.

(See pg. 51)



¼" Grate Opening

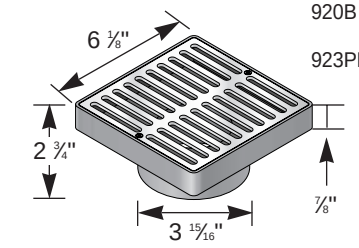
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
913B	5" Square Brass Grate w/Styrene Collar	Satin Brass	10	1.40	29.54	15BR	NDS #913B or #914PB, 5" Square Solid Brass Grate with brass screws and styrene collar. Open surface area 3.00 square inches. 3.93 GPM.
914PB	5" Square Brass Grate w/Styrene Collar	Polished Brass	10	1.40	33.26	15BR	

Fits 4" Sewer and Drain Fittings, 3" Sewer and Drain Pipe and 3" Triple Wall Pipe.

(See pg. 51)

Note: All dimensions are nominal. All weights are for shipping purposes only.

BRASS AND CHROME GRATES/ROUND GRATES

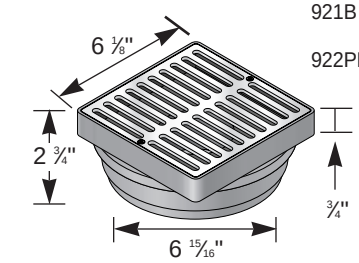


3/8" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
920B	6" Square Brass Grate w/Styrene Adaptor	Satin Brass	8	1.88	44.08	15BR	NDS #920B or #923PB, 6" Square Solid Brass Grate with brass colored styrene low profile adapter and brass screws. Open surface area 22.96 square inches. 30.08 GPM.
923PB	6" Square Brass Grate w/Styrene Adaptor	Polished Brass	8	1.88	44.71	15BR	

Fits 3" or 4" Sewer and Drain Pipe or Fittings, 3" or 4" Corrugated Pipe and 3" or 4" Triple Wall Pipe.

(See pg. 51)

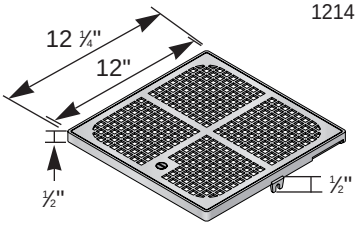


3/8" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
921B	6" Square Brass Grate w/Styrene Adaptor	Satin Brass	8	1.88	44.08	15BR	NDS #921B or #922PB, 6" Square Solid Brass Grate with brass colored styrene low profile adapter and brass screws. Open surface area 22.96 square inches. 30.08 GPM.
922PB	6" Square Brass Grate w/Styrene Adaptor	Polished Brass	8	1.88	44.71	15BR	

Fits Spee-D Basin, 6" Sewer and Drain Pipe & Fittings.

(See pg. 51)



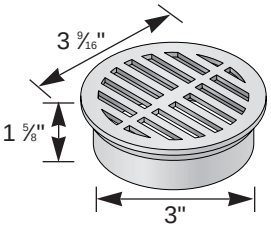
3/8" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1214	12"x 12" Square Grate	Manganese Bronze	1	9.00	359.09	10ND	NDS #1214, 12" Square Manganese Bronze Grate and Frame. Open surface area 36.75 square inches. 48.14 GPM.

Use with 12"x12" Catch Basin Series. Screws in tab on the frame, will secure the frame to the outside edge of 12" x 12" catch Basin Adapter. Note: **(Frame must be attached to catch basin before backfilling or encasing in concrete.)**

(See pg. 51)

ROUND GRATES

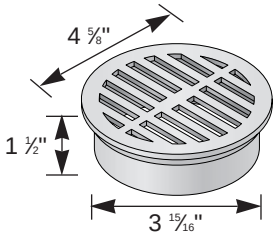


3/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
14	3" Round Grate	Black	40	0.15	2.17	10ND	NDS #14, #15, #16, or #16S, 3" Round Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 2.60 square inches. 3.41 GPM.
15	3" Round Grate	Gray	40	0.15	2.17	10ND	
16	3" Round Grate	Green	40	0.15	2.17	10ND	
16S	3" Round Grate	Sand	40	0.15	2.17	10ND	

Fits 3" Sewer and Drain Pipe & Fittings, 3" Corrugated Pipe and 3" Triple Wall Pipe.

(See pg. 51)



1/4" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
11	4" Round Grate	Black	25	0.20	2.30	10ND	NDS #11, #12, #13, or #13S, 4" Round Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 3.85 square inches. 5.04 GPM.
12	4" Round Grate	Gray	25	0.20	2.30	10ND	
13	4" Round Grate	Green	25	0.20	2.30	10ND	
13S	4" Round Grate	Sand	25	0.20	2.30	10ND	

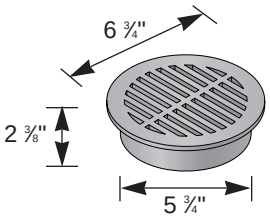
Fits 4" Sewer and Drain Pipe & Fittings, 4" Corrugated Pipe, and 4" Triple Wall Pipe.

(See pg. 51)

Note: All dimensions are nominal. All weights are for shipping purposes only.

For customer service, please send your fax to: 1-800-726-1998 or call 1-800-726-1994.

NDS

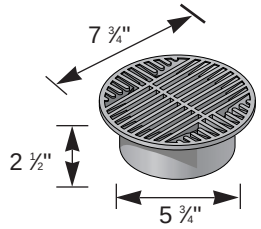


¼" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
40	6" Round Grate	Black	10	0.80	6.43	10ND	NDS #40, #50, #60, or #60S, 6" Round Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 9.10 square inches. 11.92 GPM.
50	6" Round Grate	Green	10	0.80	6.43	10ND	
60	6" Round Grate	Gray	10	0.80	6.43	10ND	
60S	6" Round Grate	Sand	10	0.80	6.43	10ND	

Fits Spee-D Basin, 6" Sewer and Drain Pipe and Fittings and 6" Corrugated Pipe.

(See pg. 51)

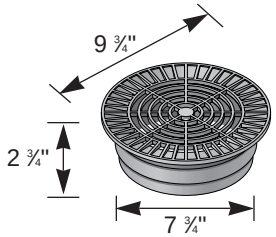


5/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
10	8" Round Grate	Black	10	0.80	6.78	10ND	NDS #10, #20, #30, or #30S, 6" Round Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 11.50 square inches. 15.07 GPM.
20	8" Round Grate	Green	10	0.80	6.78	10ND	
30	8" Round Grate	Gray	10	0.80	6.78	10ND	
30S	8" Round Grate	Sand	10	0.80	6.78	10ND	

Fits Spee-D Basin, 6" Sewer and Drain Pipe and Fittings and 6" Corrugated Pipe.

(See pg. 51)

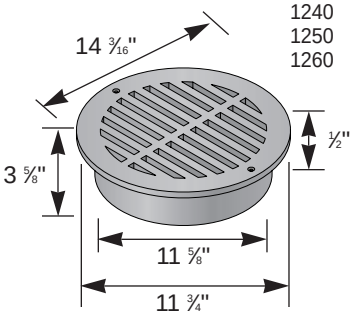


5/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1040	10" Round Grate	Black	10	1.50	12.47	10ND	NDS #1040, #1050, #1060, or #1060S, 8" Round Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 17.46 square inches. 22.87 GPM.
1050	10" Round Grate	Green	10	1.50	12.47	10ND	
1060	10" Round Grate	Gray	10	1.50	12.47	10ND	
1060S	10" Round Grate	Sand	10	1.50	12.47	10ND	

Fits 8" Sewer and Drain Pipe and Fittings, 8" Corrugated Pipe.

(See pg. 51)

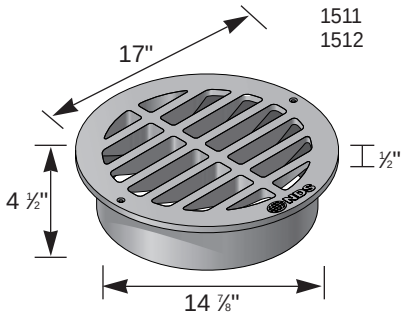


9/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1240	12" Round Grate	Black	6	3.35	35.14	10ND	NDS #1240, #1250, #1260, 12" Round Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 46.00 square inches. 60.26 GPM.
1250	12" Round Grate	Green	6	3.35	35.14	10ND	
1260	12" Round Grate	Gray	6	3.35	35.14	10ND	

Fits 12" Sewer and Drain Pipe, 12" Corrugated Pipe.

(See pg. 51)



1 ¼" Grate Opening

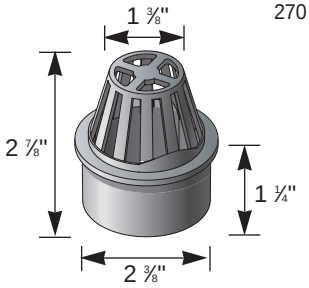
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1511	15" Round Grate	Black	1	6.15	67.76	10ND	NDS #1511, #1512, 15" Round Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 85.60 square inches. 112.14 GPM.
1512	15" Round Grate	Green	1	6.15	67.76	10ND	

Fits 15" Sewer and Drain Pipe and Fittings, 15" Corrugated Pipe.

(See pg. 51)

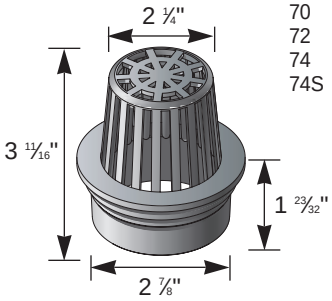
Note: All dimensions are nominal. All weights are for shipping purposes only.

ATRIUM GRATES



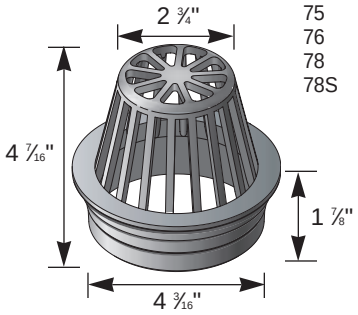
1/4" Grate Openings

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
270	2" Atrium Grate Fits 2" Schedule 40 Fittings.	Gray	20	0.10	3.96	10ND	NDS #270, Flat Top Structural Form Polyolefin Atrium Grate with UV inhibitor. Open surface area 4.00 square inches. 5.24 GPM.



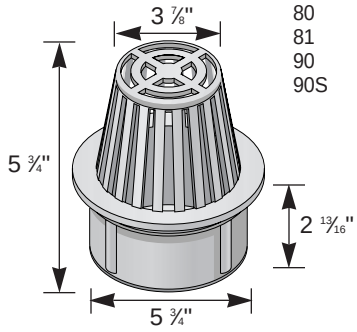
1/4" Grate Openings

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
70	3" Atrium Grate	Green	20	0.25	5.08	10ND	NDS #70, #72, #74, #74S, Flat Top Structural Foam Polyolefin Atrium Grate with UV inhibitor. Open surface area 9.50 square inches. 12.45 GPM.
72	3" Atrium Grate	Gray	20	0.25	5.08	10ND	
74	3" Atrium Grate	Black	20	0.25	5.08	10ND	
74S	3" Atrium Grate	Sand	20	0.25	5.08	10ND	
	Fits 3" Sewer and Drain Pipe and Fittings, 3" Corrugated Pipe and 3" Triple Wall Pipe.						



1/4" Grate Openings

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
75	4" Atrium Grate	Green	20	0.30	7.67	10ND	NDS #75, #76, #78, or #78S, Flat Top Structural Foam Polyolefin Atrium Grate with UV inhibitor. Open surface area 14.50 square inches. 19.00 GPM.
76	4" Atrium Grate	Gray	20	0.30	7.67	10ND	
78	4" Atrium Grate	Black	20	0.30	7.67	10ND	
78S	4" Atrium Grate	Sand	20	0.30	7.67	10ND	
	Fits 4" Sewer and Drain Pipe and Fittings, 4" Corrugated Pipe and 4" Triple Wall Pipe.						



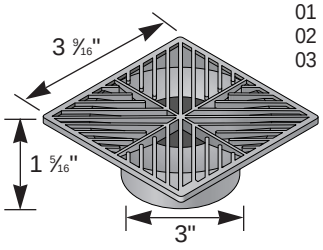
1/4" Grate Openings

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
80	6" Atrium Grate	Green	10	0.70	10.29	10ND	NDS #80, #81, #90, or #90S, Flat Top Structural Foam Polyolefin Atrium Grate with UV inhibitor. Open surface area 25.50 square inches. 33.41 GPM.
81	6" Atrium Grate	Gray	10	0.70	10.29	10ND	
90	6" Atrium Grate	Black	10	0.70	10.29	10ND	
90S	6" Atrium Grate	Sand	10	0.70	10.29	10ND	
	Fits Spee-D Basin, 6" Sewer and Drain Pipe and Fittings, 6" Corrugated Pipe.						

Note: All dimensions are nominal. All weights are for shipping purposes only.

For customer service, please send your fax to: 1-800-726-1998 or call 1-800-726-1994.

NDS

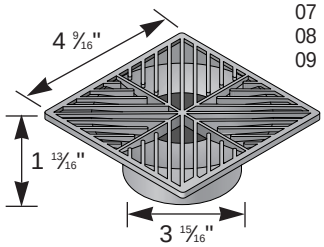


3/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
01	4" Square Grate	Green	40	0.11	2.72	10ND	NDS #01, #02, #03, 4" Square Structural Foam Polyolefin Grate with diagonally converging pattern with UV inhibitor. Open surface area 3.45 square inches. 4.52 GPM.
02	4" Square Grate	Black	40	0.11	2.72	10ND	
03	4" Square Grate	Gray	40	0.11	2.72	10ND	

Fits 3" Sewer and Drain Pipe and Fittings, 3" Corrugated Pipe and 3" Triple Wall Pipe.

(See pg. 51)

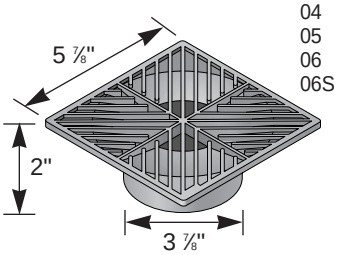


3/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
07	5" Square Grate	Green	25	0.20	2.98	10ND	NDS #07, #08, #09, or #09S, 5" Square Structural Foam Polyolefin Grate with diagonally converging pattern with UV inhibitor. Open surface are 4.25 square inches. 5.57 GPM.
08	5" Square Grate	Black	25	0.20	2.98	10ND	
09	5" Square Grate	Gray	25	0.20	2.98	10ND	

Fits 4" Sewer and Drain Pipe and Fittings, 4" Corrugated Pipe and 4" Triple Wall Pipe.

(See pg. 51)

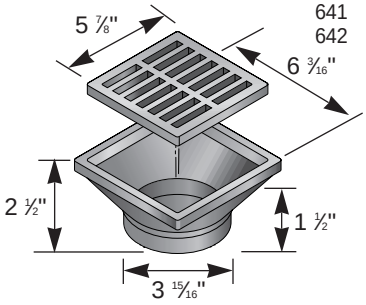


1/4" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
04	6" Square Grate	Black	10	0.40	4.53	10ND	NDS #04, #05, #06, or #06S, 6" Square Structural Foam Polyolefin Grate with diagonally converging pattern with UV inhibitor. Open surface area 10.40 square inches. 13.62 GPM.
05	6" Square Grate	Green	10	0.40	4.53	10ND	
06	6" Square Grate	Gray	10	0.40	4.53	10ND	
06S	6" Square Grate	Sand	10	0.40	4.53	10ND	

Fits 3" or 4" Sewer and Drain Pipe, 3" or 4" Corrugated Pipe and 3" or 4" Triple Wall Pipe.

(See pg. 51)

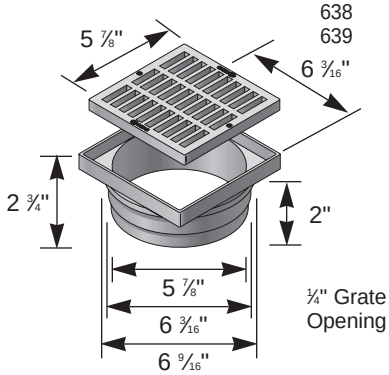


1/4" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
640	6" x 6" x 4" Sq Grate & Adapter	Black	8	0.88	14.49	10ND	NDS #640, #641, #642, #637, #638, #639, 6"x6" Low Profile Adapter and Structural Foam Polyolefin Removable Grate with UV inhibitor and stainless steel screws. Open surface area 13.61 square inches. 17.83 GPM.
641	6" x 6" x 4" Sq Grate & Adapter	Green	8	0.88	14.49	10ND	
642	6" x 6" x 4" Sq Grate & Adapter	Gray	8	0.88	14.49	10ND	

Fits 3" or 4" Sewer and Drain Pipe and Fittings, 3" or 4" Corrugated Pipe and 3" or 4" Triple Wall Pipe.

(See pg. 51)



1/4" Grate Opening

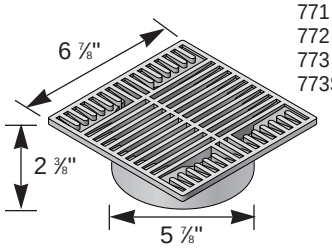
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
637	6" x 6" x 6" Sq Grate & Adapter	Black	8	0.88	14.49	10ND	NDS #640, #641, #642, #637, #638, #639, 6"x6" Low Profile Adapter and Structural Foam Polyolefin Removable Grate with UV inhibitor and stainless steel screws. Open surface area 13.61 square inches. 17.83 GPM.
638	6" x 6" x 6" Sq Grate & Adapter	Green	8	0.88	14.49	10ND	
639	6" x 6" x 6" Sq Grate & Adapter	Gray	8	0.88	14.49	10ND	

Fits Spee-D Basin, 6" Sewer & Drain Pipe and Fittings.

(See pg. 51)

Note: All dimensions are nominal. All weights are for shipping purposes only.

SQUARE GRATES/SPEE-D BASINS

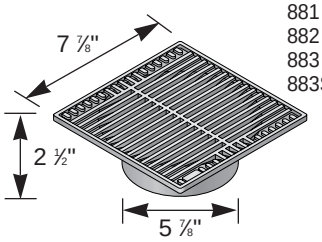


¼" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
771	7" Square Grate	Black	10	0.70	6.58	10ND	NDS #771, #772, #773, or #773S, 7" Square Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 13.60 square inches. 17.83 GPM.
772	7" Square Grate	Green	10	0.70	6.58	10ND	
773	7" Square Grate	Gray	10	0.70	6.58	10ND	
773S	7" Square Grate	Sand	10	0.70	6.58	10ND	

Fits Spee-D Basin, 6" Sewer and Drain Pipe and Fittings, 6" Corrugated Pipe.

(See pg. 51)

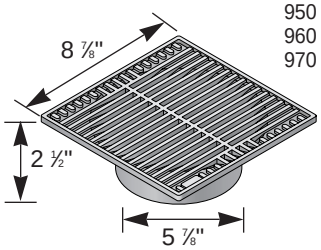


¼" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
881	8" Square Grate	Black	10	0.80	7.18	10ND	NDS #881, #882, #883, or #883S, 8" Square Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 17.16 square inches. 22.48 GPM.
882	8" Square Grate	Green	10	0.80	7.18	10ND	
883	8" Square Grate	Gray	10	0.80	7.18	10ND	
883S	8" Square Grate	Sand	10	0.80	7.18	10ND	

Fits Spee-D Basin, 6" Sewer and Drain Pipe and Fittings, 6" Corrugated Pipe.

(See pg. 51)



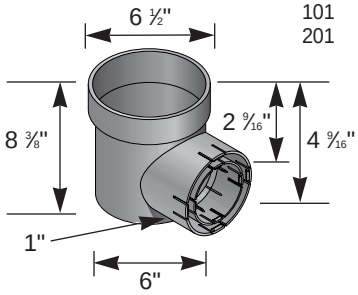
5/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
950	9" Square Grate	Green	10	1.90	11.10	10ND	NDS #950, #960, #970, 9" Square Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 28.40 square inches. 37.20 GPM.
960	9" Square Grate	Gray	10	1.90	11.10	10ND	
970	9" Square Grate	Black	10	1.90	11.10	10ND	

Fits Spee-D Basin, 6" Sewer and Drain Pipe and Fittings, 6" Corrugated Pipe.

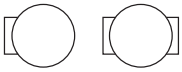
(See pg. 51)

SPEE-D BASINS

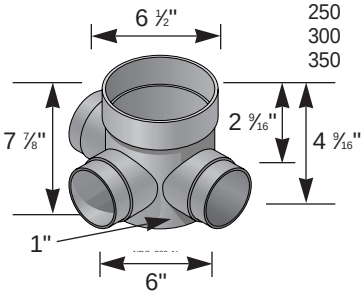


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
101	1 - 3" and 4" Locking Outlet *	Black	10	1.60	10.94	10ND	NDS #101 and #201 with locking outlet #250, #300, or #350, 6" Spee-D Catch Basin.
201	2 - 3" and 4" Locking Outlets *	Black	10	1.90	10.94	10ND	

#101, #201 Outlets fit 3" or 4" Sewer & Drain Pipe, 3" or 4" Corrugated Pipe.
Use NDS #66 as Riser for all 6" round catch basins (see S&D fitting price catalog).
***New Locking Outlet snaps on to most 3" and 4" corrugated pipe.**

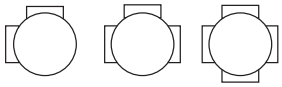


101 201



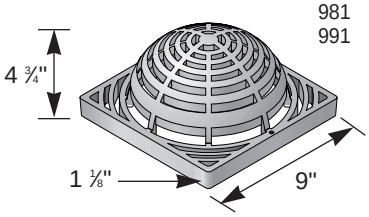
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
250	2 - 3" and 4" 90° Outlets	Black	12	1.92	10.94	10ND	NDS #101 and #201 with locking outlet #250, #300, or #350, 6" Spee-D Catch Basin.
300	3 - 3" and 4" Outlets	Black	12	1.92	18.78	10ND	
350	4 - 3" and 4" Outlets	Black	12	2.25	21.92	10ND	

#250, #300, #350 Outlets fit 4" Sewer & Drain Pipe, 3" and 4" Corrugated Pipe and DWV Pipe, 4" SCH 40 Pipe, 4" Sewer and Drain Fittings. Use NDS #66 as Riser for all 6" round catch basins (see S&D fitting price catalog).



250 300 350

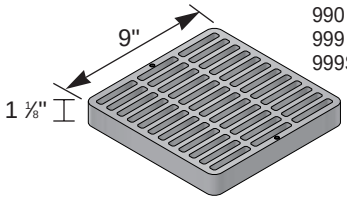
Note: All dimensions are nominal. All weights are for shipping purposes only.



⅜" Grate Openings

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
981	9" x 9" Atrium Grate	Black	6	0.87	23.29	10ND	NDS #981, #991, 9" Structural Foam Polyolefin Dome Atrium Grate with UV inhibitor. Open surface area 30.28 square inches. 39.67 GPM.
991	9" x 9" Atrium Grate	Green	6	0.87	23.29	10ND	

Use with 9"x9" Catch Basin Series.

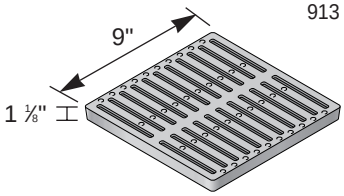


7/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
980	9" Square Grate	Black	8	1.50	20.19	10ND	NDS #980, #990, #999, or #999S, 9" Square Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 39.50 square inches. 51.75 GPM.
990	9" Square Grate	Green	8	1.50	20.19	10ND	
999	9" Square Grate	Gray	8	1.50	20.19	10ND	
999S	9" Square Grate	Sand	8	1.50	20.19	10ND	

Use with 9"x9" Catch Basin Series.

(See pg. 51)

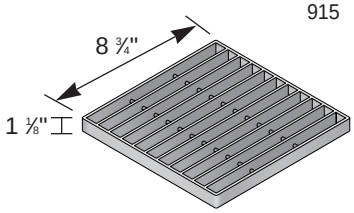


9/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
913	9" Square Cast Iron Grate	Black	1	8.40	52.26	10ND	NDS #913, 9" Square Heavy Duty Cast Iron Grate with black powder coating. Open surface area 35.70 square inches. 46.77 GPM.

Use with 9"x9" Catch Basin Series.

(See pg. 51)

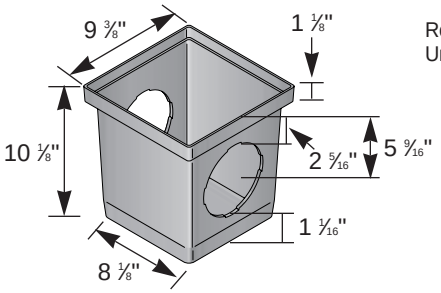


⅞" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
915	9" Square Galvanized Steel Grate	Galvanized Steel	1	4.23	44.99	10ND	NDS #915, 9" Square Heavy Duty Galvanized Steel Bar Grate. Open surface area 65.00 square inches. 85.15 GPM.

Use with 9"x9" Catch Basin Series.

(See pg. 51)

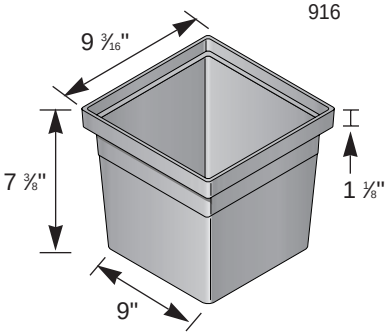


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
900	9" x 9" Catch Basin 2-opening	Black	4	3.00	15.63	10ND	NDS #900, or #900-4, 9" x 9" Tapered Catch Basin.
900-4	9" x 9" Catch Basin 4-opening	Black	4	2.00	17.22	10ND	

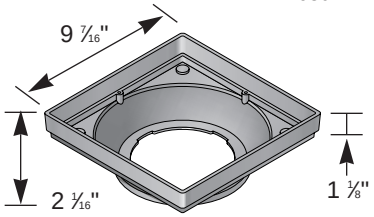
Requires either #1206, #1242, #1243, #1245, #1266 or #1889 Universal Outlet for each Opening. (See page 23.)

Note: All dimensions are nominal. All weights are for shipping purposes only.

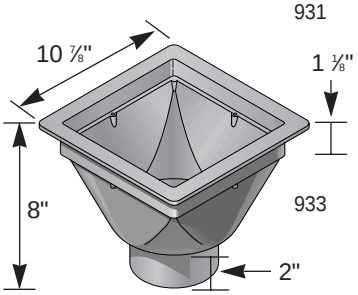
9" CATCH BASIN SERIES



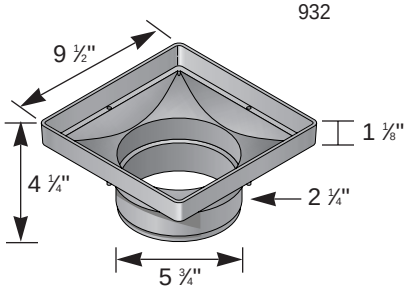
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
916	9" x 9" Catch Basin Riser (No Bottom) Use with 9" x 9" Catch Basin Series.	Black	4	1.75	13.73	10ND	NDS #916, 6" Riser for 9" x 9" Catch Basin.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
930	9" x 9" Low Profile Adapter Fits Corrugated, Sewer and Drain Pipe. Requires NDS #1242, #1243, #1245, #1266 or #1889 Universal Outlets. (See page 23.)	Black	8	0.75	14.06	10ND	NDS #930, 9"x9" Low Profile Adapter with Bayonet Bottom Outlet.

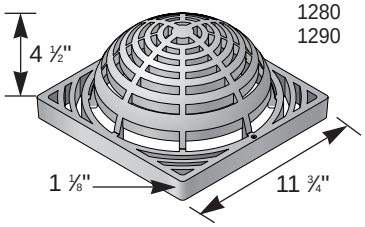


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
931	9" x 9" Deep Housing Spigot Adapter Fits 4" Corrugated Pipe. Use #933 to adapt to 4" Sewer and Drain Pipe.	Black	10	2.40	11.10	10ND	NDS #931, 9"x9" Square Deep Housing Spigot Adapter.
933	Adapter Bushing Fits 4" Sewer and Drain Pipe. Use Housing Adapter Bushing with #931.	Black	20	0.30	1.95	10ND	



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
932	9" x 9" Low Profile Housing Adapter Fits 6" Spee-D Basin and 6" Sewer and Drain Pipe and Fittings.	Black	8	1.13	20.10	10ND	NDS #932, 9"x9" Square Low Profile Housing Adapter with 6" Outlet.

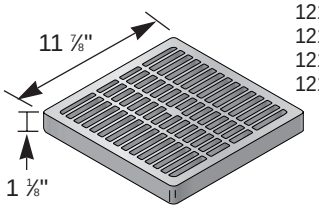
Note: All dimensions are nominal. All weights are for shipping purposes only.



⅜" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1280	12" x 12" Atrium Grate	Green	8	2.00	34.57	10ND	NDS #1280, #1290, 12" Structural Foam Polyolefin Dome Atrium Grate with UV inhibitor. Open surface area 60.00 square inches. 78.60 GPM.
1290	12" x 12" Atrium Grate	Black	8	2.00	34.57	10ND	

Use with 12" x 12" Catch Basin Series.

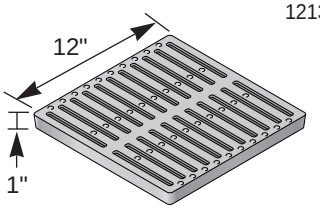


⅜" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1210	12" x 12" Square Grate	Gray	8	2.00	29.97	10ND	NDS #1210, #1211, #1212, or #1212S, 12" Square Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 50.76 square inches. 66.50 GPM.
1211	12" x 12" Square Grate	Black	8	2.00	29.97	10ND	
1212	12" x 12" Square Grate	Green	8	2.00	29.97	10ND	
1212S	12" x 12" Square Grate	Sand	8	2.00	29.97	10ND	

Use with 12" x 12" Catch Basin Series.

(See pg. 51)

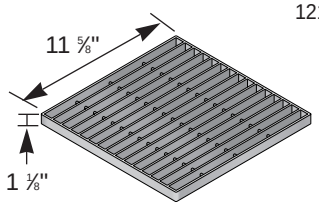


⅜" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1213	12" x 12" Square Cast Iron Grate	Black	1	15.00	56.71	10ND	NDS #1213, 12" Square Heavy Duty Cast Iron Grate with black powder coating. Open surface area 59.50 square inches. 77.95 GPM.

Use with 12" x 12" Catch Basin Series.

(See pg. 51)

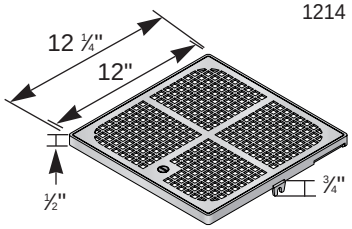


¾" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1215	12" x 12" Square Galvanized Steel Grate	Galvanized Steel	1	8.90	80.86	10ND	NDS #1215, 12" Square Heavy Duty Galvanized Steel Bar Grate. Open surface area 122.30 square inches. 160.21 GPM.

Use with 12" x 12" Catch Basin Series.

(See pg. 51)

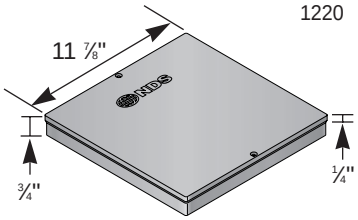


⅜" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1214	12" x 12" Square Grate	Manganese Bronze	1	9.00	359.09	10ND	NDS #1214, 12" Square Manganese Bronze Grate and Frame. Open surface area 36.75 square inches. 48.14 GPM.

Use with 12" x 12" Catch Basin Series. Screws in tabs on the frame, will secure the frame to the outside edge of 12" x 12" catch Basin Adapter. Note: **(Frame must be attached to catch basin before backfilling or encasing in concrete.)**

(See pg. 51)



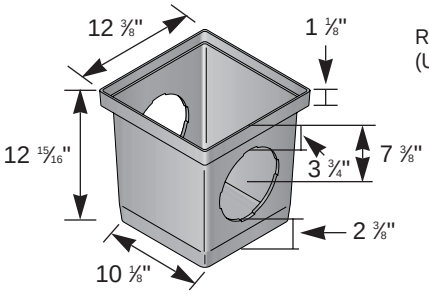
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1220	12" x 12" Sump Box Cover	Black	8	2.00	28.44	10ND	NDS #1220, 12" Square Strucutral Foam Polyolifin Solid Cover.

Use with NDS 12" x 12" Catch Basin Series and NDS #1219 Backwater Valve Box.

Note: All dimensions are nominal. All weights are for shipping purposes only.

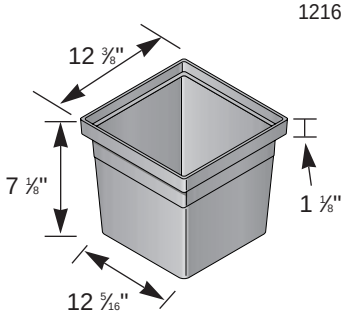
12" CATCH BASIN SERIES

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1200	12" x 12" Catch Basin, 2 Openings	Black	4	4.25	26.70	10ND	NDS #1200, #1203, or
1203	12" x 12" Catch Basin, 3 Openings	Black	4	3.75	33.00	10ND	#1204, 12" x 12" Tapered
1204	12" x 12" Catch Basin, 4 Openings	Black	4	3.75	36.17	10ND	Catch Basin.



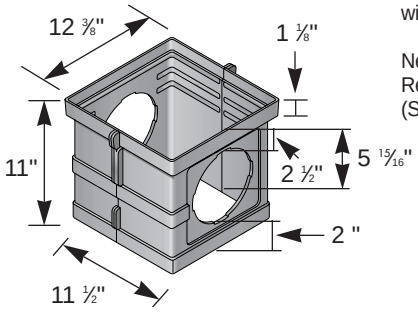
Requires either #1206, #1242, #1243, #1245, #1266 or #1889 Universal Outlet for each opening.
(Use bottom cutout for additional outlet. See page 23.)

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1216	6" Catch Basin Riser (No Bottom)	Black	8	2.75	15.60	10ND	NDS #1216, 6" Riser for 12" Catch Basin.



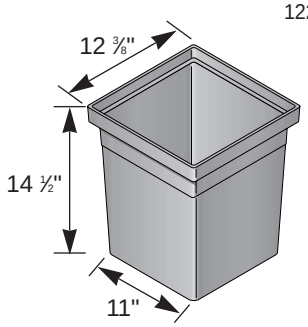
Use with 12"x12" Catch Basin Series.

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1217	12" x 12" Riser with 2 openings	Black	4	4.00	20.52	10ND	NDS #1217, 12" Riser with Two Openings.



Nests on top of 12" catch basin series for shallow outlets and 12" sump box for more sump area.
Requires either #1206, #1242, #1243, #1245, #1266 or #1889 Universal Outlet for each opening.
(See page 23.)

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1225	12" x 12" Sump Box	Black	4	6.75	30.51	10ND	NDS #1225, one piece 12" Sump Box.

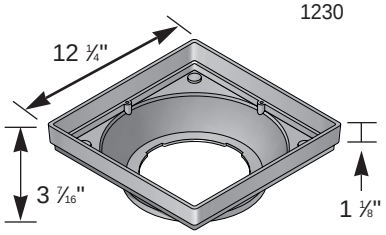


Use with 12" x 12" Grate or #1220 Valve Box Cover.

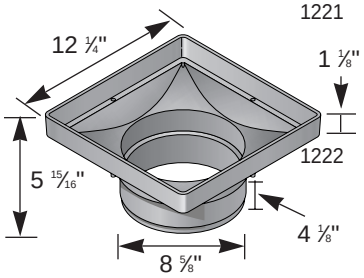
Note: All dimensions are nominal. All weights are for shipping purposes only.

For customer service, please send your fax to: 1-800-726-1998 or call 1-800-726-1994.

NDS

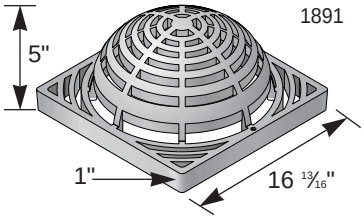


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1230	12" x 12" Low Profile Adapter Requires either #1242, #1243, #1245, #1266 or #1889 Universal Outlet for connection to 3", 4", or 6" Sewer and Drain or Corrugated Pipe. (See page 23.)	Black	8	1.25	18.80	10ND	NDS #1230, 12" x 12" Low Profile Adapter with Bayonet Bottom Outlet.



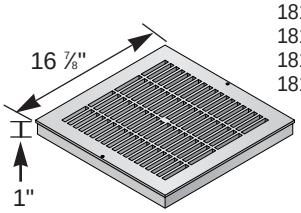
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1221	12" x 12" Square, Low Profile Adapter Fits 8" Sewer and Drain Pipe.	Black	12	1.92	22.54	10ND	NDS #1221, or #1222, 12" x 12" Low Profile Adapter.
1222	12" x 12" Square, Low Profile Spigot Adapter Fits 8" Corrugated Pipe.	Black	12	1.92	22.54	10ND	

18" CATCH BASIN SERIES



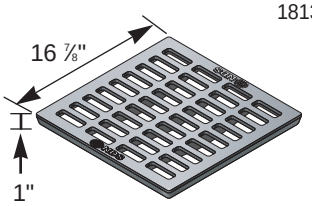
½" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1881	18" x 18" Atrium Grate	Black	4	3.50	69.02	10ND	NDS #1881, #1891, 18" Structural Foam Polyolefin Dome Atrium Grate with UV inhibitor. Open surface area 64.51 square inches. 84.51 GPM.
1891	18" x 18" Atrium Grate	Green	4	3.50	69.02	10ND	
	Use with 18" x 18" Catch Basin Series.						



7/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1810	18" x 18" Square Grate	Gray	4	5.50	56.85	10ND	NDS #1810, #1811, #1812, #1812S, 18" Square Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 104.00 square inches. 136.24 GPM.
1811	18" x 18" Square Grate	Black	4	5.50	56.85	10ND	
1812	18" x 18" Square Grate	Green	4	5.50	56.85	10ND	
1812S	18" x 18" Square Grate	Sand	4	5.50	56.85	10ND	
	Use with 18" x 18" Catch Basin Series.						
	(See pg. 51)						

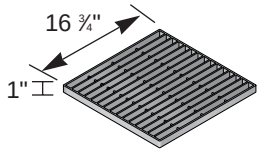


1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1813	18" x 18" Cast Iron Square Grate Use with 18" x 18" Catch Basin Series. (See pg. 51)	Black	1	35.00	193.24	10ND	NDS #1813, 18" Square Heavy Duty Cast Iron Grate with black powder coating. Open surface area 105.75 square inches. 138.53 GPM. H-20 Load Rating.

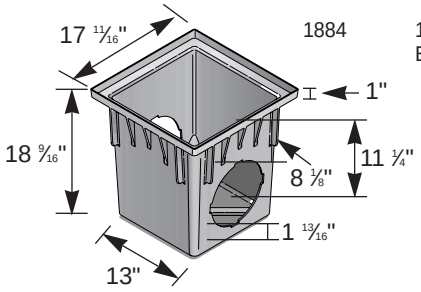
Note: All dimensions are nominal. All weights are for shipping purposes only.

18" CATCH BASIN SERIES



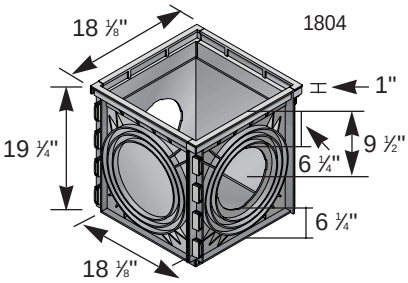
1" Grate Openings

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1815	18" Square Galvanized Steel Grate Use with 18"x18" Catch Basin Series. (See pg. 51)	Galvanized Steel	1	17.00	143.73	10ND	NDS #1815, 18" Square Heavy Duty Galvanized Steel Bar Grate. Open surface area 291.00 square inches. 381.21 GPM.



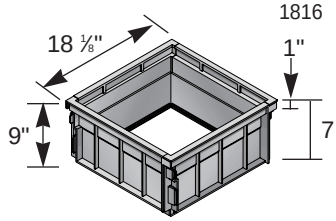
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1882	18" One Piece Catch Basin 2 Opening	Black	1	10.00	168.53	10ND	NDS #1882, #1884, 18" x 18" One-Piece Tapered Catch Basin.
1884	18" One Piece Catch Basin 4 Opening	Black	1	9.50	179.76	10ND	

Requires either #1206, #1242, #1243, #1245, #1266, #1888, #1889.
Universal outlets. (See page 23.)
Includes 2 or 4 #1890 Reducer Ring.



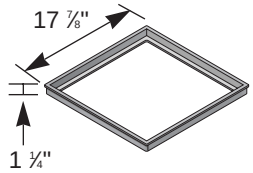
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1800	18" x 18" Expandable Catch Basin 2 opening*	Black	1	16.00	131.08	10ND	NDS #1800, #1804, 18" x 18" Modular Catch Basin with Locking Tabs.
1804	18" x 18" Expandable Catch Basin 4 opening*	Black	1	16.00	140.56	10ND	

Assembly Required. #1800 includes: 2 #1822, 2 #1820, 1 #1828.
#1804 includes: 4 #1822, 1 #1828. Use #1800 and #1804 with #1206, #1243, #1245, #1266 or #1888 Universal outlets. (See page 23.)
Includes 2 or 4 #1890 Reducer Ring.
(Note: Use Roof Tar or Silicone to seal joints.)



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1816	8" Catch Basin Riser	Black	1	6.00	69.51	10ND	NDS #1816, 6" Riser for 18" x 18" Catch Basin.

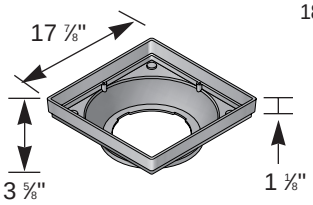
Riser package includes 4 sides. Use with #1800, #1804, #1882, or #1884.



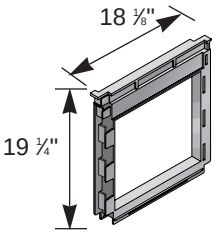
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1840	Frame to adapt 18" x 18" grate to concrete catch basin	Black	4	2.00	37.43	10ND	NDS #1840, 18" x 18" Frame.

Use with 18" x 18" Grates on pages 19 and 20.

Note: All dimensions are nominal. All weights are for shipping purposes only.

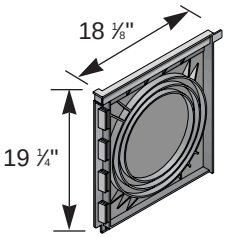


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1830	18" x 18" Low Profile Adapter Includes NDS #1890 Reducer Ring. Requires either a NDS #1243, #1245, #1266, or #1888 Universal Outlet. (See page 23.) Fits Corrugated Pipe and Sewer and Drain Pipe.	Black	4	4.75	57.80	10ND	NDS #1830, 18" x 18" Low Profile Adapter with Bayonet Bottom Outlet.

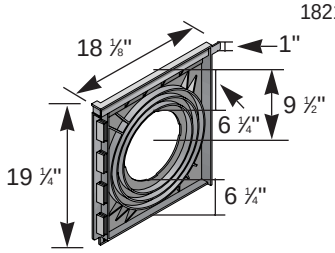


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1850	18" x 18" Coupling Use with #1800, #1804 or Component Parts #1822, #1828. Couples 18" x 18" Catch Basins together in 18" linear increments.	Black	1	6.00	121.62	10ND	NDS #1850, 18" x 18" Coupling with adjacent Grate Support and Locking Tabs.

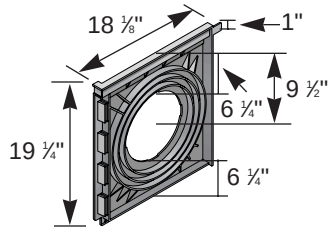
18" COMPONENT PARTS



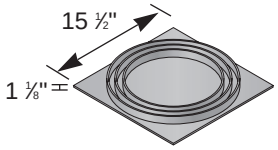
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1820	Basin Side - No Opening	Black	4	4.00	28.42	10ND	NDS #1820, 18" x 18" Catch Basin Side, No Opening.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1821	Basin Side - 8" Opening Reducer Ring not Included. Requires #1888 Universal Outlet to fit 8" Corrugated Pipe or Sewer and Drain Pine or #1266 Universal Outlets. (See page 23.) #1889 Universal Outlet does <u>not</u> fit this #1821 Basin Side.	Black	4	4.00	28.42	10ND	NDS #1821, 18" x 18" Catch Basin Side, 8" Opening.



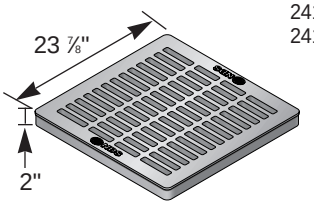
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1822	Basin Side - 6" or 8" Opening Opening using Universal Outlet. Includes #1890 Reducer Ring. Use with #1206, #1242, #1243, #1245, #1266 or #1888 Universal Outlets. (See page 23.)	Black	4	3.75	33.17	10ND	NDS #1822, 18" x 18" Catch Basin Side, 6" or 8" Opening.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1828	Basin Bottom	Black	4	2.50	17.38	10ND	NDS #1828, 18" x 18" Catch Basin Bottom.

Note: All dimensions are nominal. All weights are for shipping purposes only.

24" CATCH BASIN SERIES

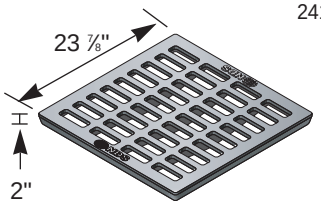


⅞" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
2411	24" x 24" Square Grate	Black	1	19.75	279.75	10ND	NDS #2411, #2412, 24" Square Structural Foam Polyolefin Grate with UV inhibitor. Open surface area 231.69 square inches. 303.51 GPM.
2412	24" x 24" Square Grate	Green	1	19.75	279.75	10ND	

Use with 24" x 24" Catch Basin Series.

(See pg. 51)

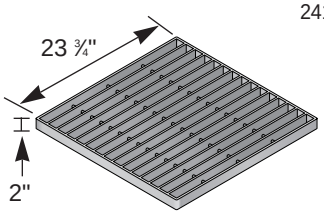


1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
2413	24" x 24" Square Cast Iron Grate	Black	1	150.00	460.64	10ND	NDS #2413, 24" Square Heavy Duty Cast Iron Grate with black powder coating. Open surface area 187.00 square inches. 244.97 GPM.

Use with 24" x 24" Catch Basin Series.

(See pg. 51)

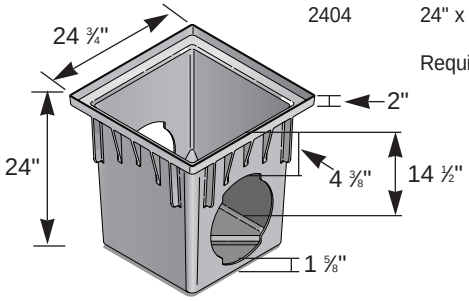


1 ¼" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
2415	24" x 24" Square Galvanized Steel Grate	Galvanized Steel	1	67.00	550.52	10ND	NDS #2415, 24" Square Heavy Duty Galvanized Steel Bar Grate. Open surface area 332.06 square inches. 435.00 GPM.

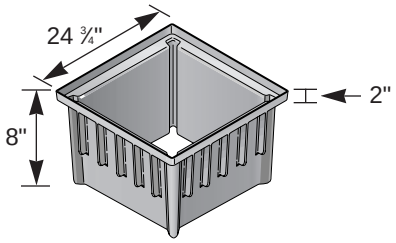
Use with 24" x 24" Catch Basin Series.

(See pg. 51)



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
2400	24" x 24" Catch Basin, 2 Openings	Black	1	18.00	331.43	10ND	NDS #2400, #2404, 24" x 24" One-Piece Tapered Catch Basin.
2404	24" x 24" Catch Basin, 4 Openings	Black	1	15.00	353.90	10ND	

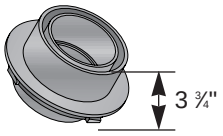
Requires 2 or 4 #2410 Universal Outlet. (See page 23.)



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
2418	24" x 24" Catch Basin Extension (No Bottom)	Black	1	14.60	195.49	10ND	NDS #2418, 8" Extension for 24" x 24" Catch Basin

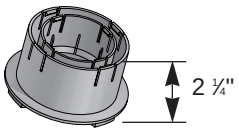
Use with 24" x 24" Catch Basin Series.

Note: All dimensions are nominal. All weights are for shipping purposes only.



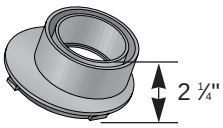
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1242	3" & 4" Universal Outlet W/ 4" Spigot	Black	20	0.74	6.25	10ND	NDS #1242, 3" & 4" Universal Outlet.

Fits 3" & 4" Corrugated pipe, 3" & 4" Sewer and Drain Pipe, 4" SCH. 40 Pipe, 4" Triple Wall Pipe. Allows for adjusting inlet height. Use with 9", 12", 18" and 24" Catch Basin Series. Use with 24" Catch Basin also requires #2410 adapter.



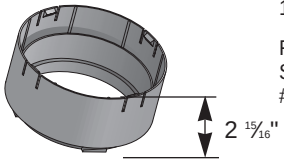
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1243	3" & 4" Universal Locking Outlet*	Black	20	0.70	3.96	10ND	NDS #1243, or #1244, 3" & 4" Patented Universal Locking Outlet.

Fits 3" & 4" Corrugated pipe, 3" & 4" Sewer and Drain Pipe, 4" SCH. 40 Pipe and 3" & 4" Triple Wall Pipe. Use with 9", 12", 18" and 24" Catch Basin Series and #930, #1230, #1830 and #2410 Adapters. Use with 24" Catch Basin also requires #2410 adapter.
***New Locking Outlet snaps on to most 3" and 4" corrugated pipe.**



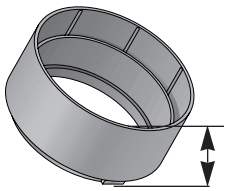
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1245	3" & 4" Offset Universal Outlet	Black	20	0.55	4.24	10ND	NDS #1245, 3" & 4" Offset Universal Outlet.

Fits 3" & 4" Corrugated pipe, 3" & 4" Sewer and Drain Pipe, 4" SCH. 40 Pipe, 4" Triple Wall Pipe. Allows for adjusting inlet height. Use with 9", 12", 18" and 24" Catch Basin Series. Use with 24" Catch Basin also requires #2410 adapter.



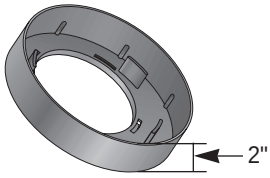
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1266	6" Universal Locking Outlet*	Black	20	0.75	4.75	10ND	NDS #1266, 6" Universal Locking Outlet.

Fits 6" Sewer and Drain Pipe, 6" Corrugated Pipe. Use with 9", 12", 18" and 24" Catch Basin Series and #930, #1230, and #1830 Low Profile Adapters. Use with 24" Catch Basin also requires #2410 adapter. ***New Locking Outlet snaps on to most 6" corrugated pipe.**



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1888	8" Universal Outlet	Black	8	1.25	9.48	10ND	NDS #1888, 8" Universal Outlet.

Fits 8" Sewer and Drain Pipe, 8" Corrugated Pipe. Use with 18" and 24" Catch Basin Series. Use with 24" Catch Basin also requires #2410 adapter.

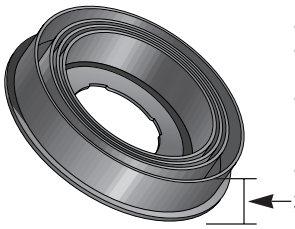


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1889	8" Offset Universal Adapter	Black	10	0.80	9.48	10ND	NDS #1889, 8" Offset Universal Adapter

Fits 8" Sewer and Drain Pipe, 8" Corrugated Pipe. Use with 9", 12" and most 18" Catch Basin Series (except 1800 and 1804).

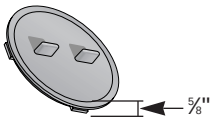
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1890	Universal Outlet Reducer Ring	Black	8	0.50	5.52	10ND	

Required on #1821 basin side when using 3", 4", or 6" pipe. Required on #1821 basin side when connecting to #1206, #1243, #1245, #1266 or #1889 Universal Outlets.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
2410	10" & 12" Universal Adapter	Black	2	5.50	33.65	10ND	NDS #2410, 10" Universal Adapter.

- Includes #1890 (comes pre-inserted).
- Fits 10" and 12" Sewer and Drain Pipe; 10" and 12" dual wall Corrugated Pipe; 12" single wall Corrugated Pipe (does not fit 10" single wall Corrugated Pipe).
- Reduces opening to fit most 3" to 8" adapters above (all except #1889) for use with 3", 4", 6" and 8" Sewer and Drain Pipe; 3", 4", 6" and 8" Corrugated Pipe; and 4" SCH. 40 Pipe (select corresponding adapter above).
- Use with 24" Catch Basin Series.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
1206	6" Universal Plug Adapter	Black	20	0.35	3.16	10ND	NDS #1206, Universal Plug.

Use with 9", 12", 18" and 24" Catch Basin Series.
Use with 24" Catch Basin also requires #2410 adapter.

Note: All dimensions are nominal. All weights are for shipping purposes only.

DURACAST™

- 15" to 24" in-line grates and catch basins.
- Iron grates for heavy-duty drainage applications, rated for heavy-duty loads.
- Manufactured to your specifications - specify pipe type, size, position and basin height.
- Offer a watertight connection to any storm drain on the market.
- Ideal for golf courses, roadways, parking lots and commercial and industrial sites.

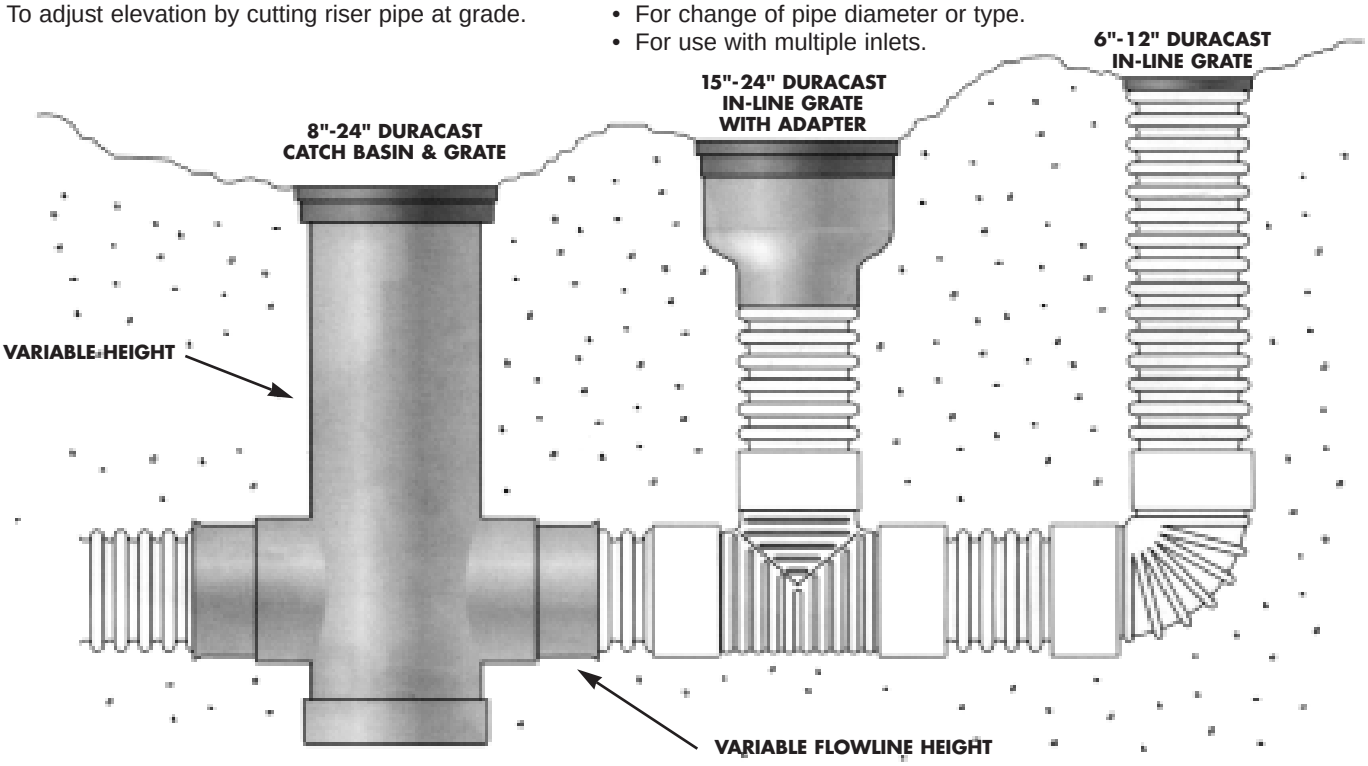
Details

- Corrosion-resistant PVC bodies with ductile or cast iron grates and watertight inlets and outlets.
- No adapters required - 6" to 12" round in-line grates fit directly into a wide range of pipe including HI-Q, Sure-Lok, N12 and SDR35. Simply cut off the pipe riser at grade and drop the grate in.
- Cost-effective and easy - less cumbersome than concrete boxes or brick and block lay ups.

Installation

In-line Grates
- For use at the beginning of a line.
- To tap into a line via a tee.
- To adjust elevation by cutting riser pipe at grade.

Catch Basins
- To collect debris.
- For change of flow line.
- For change of pipe diameter or type.
- For use with multiple inlets.



- Specified PVC surface drainage inlets installed using conventional procedures, pipes and backfill materials (crushed stone or other granular material meeting the requirements of class 1 or 2 material as defined in ASTM D231).
- Bedding and backfilling must be uniformly done in accordance with ASTM D2321.

Suggested Specifications

- PVC surface drainage inlets include in-line drains, drain basins and catch basins.
- Ductile and cast iron grates are an integral part of the surface drainage inlet and should be furnished by NDS for proper fit and performance.

Materials and Standards

- PVC pipe stock, formed by a thermo-molding process to reform the pipe stock to the specified configuration. Meets ASTM D3034 and ASTM D679.
- Joint tightness between the drainage pipe connection stubs and the piping system will conform to ASTM DM3212.
- Surface drainage products meet the mechanical property requirements for fabricated fittings as described in ASTM F794, F979 and F1336.
- All grates support H-20 wheel loading. Cast iron grates use metal conforming to ASTM A-48-83 class 30B for gray iron and 65-45-12 for ductile iron.

Note: All dimensions are nominal. All weights are for shipping purposes only.

For customer service, please send your fax to: 1-800-726-1998 or call 1-800-726-1994.

NDS

NDS
One source. Many solutions.

DuraCast™ Specification Sheet

FAX ORDERS TO NDS CUSTOMER SERVICE: (800) 726-1998

SHIP TO: _____ DATE: _____

NAME: _____ ORDER NO: _____

ADDRESS: _____ CUSTOMER NO: _____

CITY: _____ FOB: _____

STATE: _____

ZIP: _____

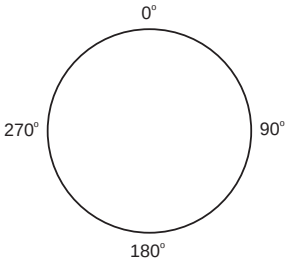
ORDERS CANNOT BE PLACED WITHOUT THIS FORM
For assistance contact NDS Customer Service at 1-800-726-1994 or 559-562-9888

PART #_____

Job Name:_____Drawing #_____of_____Grate/Basin size_____

Authorized customer initials:_____

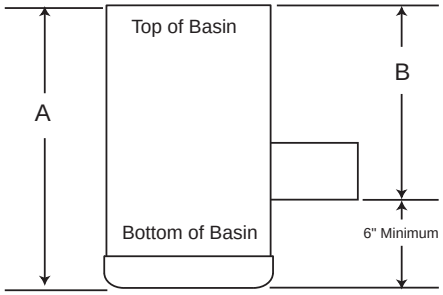
TOP VIEW



Grate Type:_____
P= Pedestrian
H = Standard H-20
S = Solid

OUTLET NO.	OUTLET SIZE	LOCATION (DEG.)	TYPE OF PIPE
1			
2			
3			
4			

SIDE VIEW



A = Overall Height of Basin (Inches) _____
B = Top of grate to bottom of outlet (flowline) (inches)

OUTLET NO.	B	COMMENTS
1		
2		
3		
4		

BASIN STANDARD HEIGHT: 8" = 18"H, 10" = 20"H, 12" = 24"H, 15" = 30"H, 18"= 34"H, 24" = 36"H

PLEASE DESIGNATE THE PIPE TYPE BY USING THE FOLLOWING ABBREVIATIONS:

ACO=A-2000 CONTECH	CDD=AWWA CAST IRON	IPS=IRON PIPE SIZE	PLC=PERMA-LOC
ULC=ULTRA-CORR	ADS=N12	PIP=PLASTIC IRRIGATION PIPE	SWR=SDR35/F679 SEWER
ULR=ULTRA-RIB	VYL=VYLON	HIQ=HANCOR HI-Q	

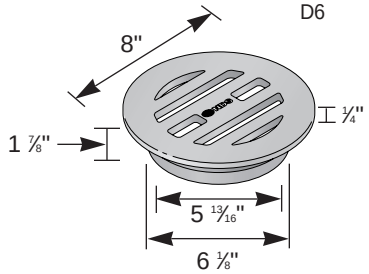
ALL INLINE DRAINS 15" AND LARGER AND ALL DRAIN BASINS ARE CONSIDERED CUSTOM AND ARE NON-RETURNABLE.
ADDITIONAL HEIGHT WILL BE BILLED IN 1 FOOT INCREMENTS AT $37.00 PER FOOT. ADDITIONAL OUTLETS BILLED @ $42.00 EACH.

042902

Note: All dimensions are nominal. All weights are for shipping purposes only.

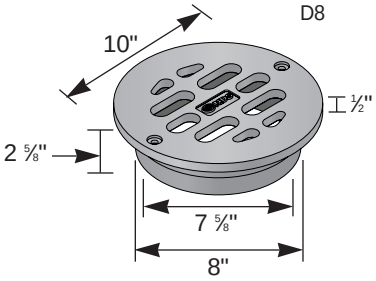
DURACAST™ IN-LINE GRATES

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
D6	6" Round Grate Fits 6" Corrugated and Sewer and Drain Pipe. D6 is not a custom grate and qualifies for normal NDS freight terms. (See pg. 51)	Black	1	7.00	23.00	75CI	NDS #D6, 6" Round Heavy Duty Cast Iron Grate with Black Powder Coating. Open surface area 9.0 square inches. 11.79 GPM. H-20 load rating.



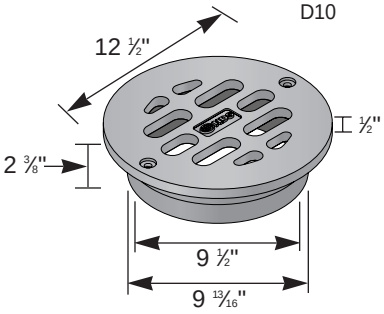
¾" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
D8	8" Round Grate Fits 8" Corrugated and Sewer and Drain Pipe. D8 is not a custom grate and qualifies for normal NDS freight terms. (See pg. 51)	Black	1	14.00	49.00	75CI	NDS #D8, 8" Round Heavy Duty Ductile Iron Grate with Black Powder Coating. Open surface area 17.56 square inches. 23.00 GPM. Bolt holes for added security, H-20 load rating.



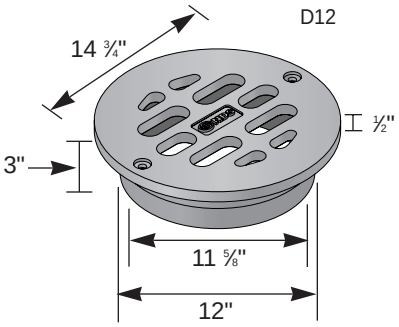
1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
D10	10" Round Grate Fits 10" Corrugated and Sewer and Drain Pipe. D10 is not a custom grate and qualifies for normal NDS freight terms. (See pg. 51)	Black	1	17.00	58.00	75CI	NDS #D10, 10" Round Heavy Duty Ductile Iron Grate with Black Powder Coating. Open surface area 29.66 square inches. 38.80 GPM. Bolt holes for added security. H-20 load rating.



1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
D12	12" Round Grate Fits 12" Corrugated and Sewer and Drain Pipe. D12 is not a custom grate and qualifies for normal NDS freight terms. (See pg. 51)	Black	1	26.00	111.00	75CI	NDS #D12, 12" Round Heavy Duty Ductile iron Grate with Black Powder Coating. Open surface area 48.09 square inches. 62.99 GPM. Bolt holes for added security. H-20 load rating.



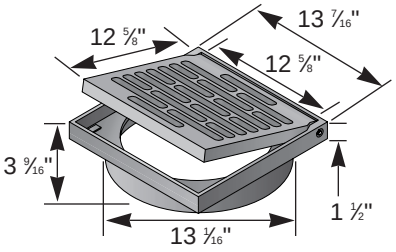
1" Grate Opening

All DuraCast Custom Engineered Grates:
- Require a 1-week lead time.
- Are non-returnable.
- Must have a DuraCast Specification Sheet submitted with the order.
- Prices are good for all pipe types listed on the DuraCast Specification Sheet.
- Price includes a PVC adapter.

All DuraCast Custom Engineered Catch Basins:
- Require a 2-week lead time.
- Are non-returnable.
- Must have a DuraCast Specification Sheet submitted with the order.
- Prices are good for all pipe types listed on the DuraCast Specification Sheet.
- Price includes 2 openings;
  - $42.00 charged for each additional opening.
- Price includes the standard basin height listed in the catalog;
  - $37.00 charged for each additional 1 foot of incremental height.

Custom DuraCast Grates and Catch Basins only: Freight is prepaid on orders of $2,500.00 NET or more.

Note: All dimensions are nominal. All weights are for shipping purposes only.



13/16" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
D12H	12" Square Hinged Cast Iron Grate with Adapter	Black	1	28.00	330.00	75CI	NDS #D12H, 12 inch Square Heavy Duty Cast Iron HInged Grate. H-20 Load Rating. Open surface area 66.77 square inches. 87.47 GPM.
D12H-WO	12" Square Hinged Cast Iron Grate Fits 12" Corrugated and Sewer and Drain Pipe	Black	1	28.00	253.33	75CI	

(See pg. 51)

1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
D15	15" Round Grate and Adapter Custom manufactured to fit specified pipe. Includes a PVC adapter.	Black	1	N/A	429.37	75CI	NDS #D15, 15" Round Heavy Duty Cast Iron Grate with fabricated PVC Adapter. Open surface area 65.00 square inches. 85.15 GPM. H-20 Load rating.

(See pg. 51)

1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
D18	18" Round Grate and Adapter Custom manufactured to fit specified pipe. Includes a PVC adapter.	Black	1	N/A	525.87	75CI	NDS #D18, 18" Round Heavy Duty Cast Iron Grate with fabricated PVC Adapter. Open surface area 72.00 square inches. 94.32 GPM. H-20 Load rating.

(See pg. 51)

1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
D24	24" Round Grate and Adapter Custom manufactured to fit specified pipe. Includes a PVC adapter.	Black	1	N/A	971.67	75CI	NDS #D24, 24" Round Heavy Duty Cast Iron Grate with fabricated PVC Adapter. Open surface area 192.00 square inches. 251.52 GPM. H-20 Load rating.

(See pg. 51)

Note: All dimensions are nominal. All weights are for shipping purposes only.

1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
DB8-XX	8" Round Grate & Catch Basin Catch basin custom manufactured to your specifications. Basin Standard Height = 18"H (See pg. 51)	Black	1	N/A	113.33	75CI	NDS #DB8-XX 8" Round Heavy Duty Ductile Iron Grate with Black Powder Coating and Fabricated PVC Catch Basin. Open surface area 17.56 square inches. 23.00 GPM. H-20 load rating.

1" Grate Opening

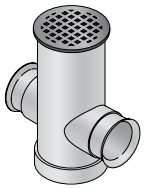
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
DB10-XX	10" Round Grate & Catch Basin Catch basin custom manufactured to your specifications. Basin standard height = 20" H. (See pg. 51)	Black	1	N/A	173.27	75CI	NDS #DB10-XX 10" Round Heavy Duty Ductile Iron Grate with Black Powder Coating and Fabricated PVC Catch Basin. Open surface area 29.66 square inches. 38.85 GPM. H-20 load rating.

1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
DB12-XX	12" Round Grate & Catch Basin Catch Basin custom manufactured to your specifications. Basin standard height = 24" H. (See pg. 51)	Black	1	N/A	466.67	75CI	NDS #DB12-XX 12" Round Heavy Duty Ductile Iron Grate with Black Powder Coating and Fabricated PVC Catch Basin. Open surface area 48.09 square inches. 62.99 GPM. H-20 load rating.

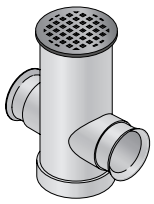
1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
DB15-XX	15" Round Grate & Catch Basin Catch Basin custom manufactured to your specifications. Basin standard height = 30" H. (See pg. 51)	Black	1	N/A	658.67	75CI	NDS #DB15-XX 15" Round Heavy Duty Ductile Iron Grate with Black Powder Coating and Fabricated PVC Catch Basin. Open surface area 65.00 square inches. 85.15 GPM. H-20 load rating.



1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
DB18-XX	18" Round Grate & Catch Basin Catch Basin custom manufactured to your specifications. Basin standard height = 34" H. (See pg. 51)	Black	1	N/A	762.67	75CI	NDS #DB18-XX 18" Round Heavy Duty Ductile Iron Grate with Black Powder Coating and Fabricated PVC Catch Basin. Open surface area 72.00 square inches. 94.32 GPM. H-20 load rating.



1" Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
DB24-XX	24" Round Grate & Catch Basin Catch Basin custom manufactured to your specifications. Basin standard height = 36" H. (See pg. 51)	Black	1	N/A	1333.60	75CI	NDS #DB24-XX 24" Round Heavy Duty Ductile Iron Grate with Black Powder Coating and Fabricated PVC Catch Basin. Open surface area 192.00 square inches. 251.50 GPM. H-20 load rating.

Note: All dimensions are nominal. All weights are for shipping purposes only.

Durable

Designed for maximum durability and drainage, NDS Channel Drains are a proven alternative to traditional concrete drains. UV inhibitors in the grates, channel and component parts prevent fading and cracking from the sun. All plastic grate and channel components are **chemically resistant, rust proof, and maintenance free.**

Simple

NDS Channel is light-weight and easy to install. Grates are removable for easy clean-out and replacement. Channel Grates may be held in place with NDS screws or hold down clips. A complete line of accessories is available for each channel.

NDS Channel Systems operate on the same principle as a roof gutter. Our “Profile Series” of channel drains connect like PVC pipe. Our “Modular Pro Series” Injection Molded Channel has mechanical interlocking joints. All NDS channel easily connects to sewer and drain pipe and fittings or SCH 40 pipe and fittings.

Versatile

To blend with surrounding surfaces, our Channel Grates are available in six colors, as well as solid brass for the Mini Channel. Cast iron and rolled steel grates are available for the Dura Channel and Pro Series Channel. A steel or PVC frame is also available for the Dura Channel.

The Channel System also offers a choice of outlets. Water can be evacuated from the bottom of the channel or from the end or sides of the channel.

Efficient

Channel Drain eliminates the need for grading a deck surface to a low area. Instead, the deck is gradually sloped in one direction or plane, and the channel drain acts as a perimeter drain at the edge of the slope.

Most hardscapes experience more runoff than landscapes due to the lack of water absorption. Channel Drain systems provide more overall open surface area than conventional area grates.

Non-Sloped Channel System Advantages

NDS offers non-sloped channel system advantages; less expensive, simplifies inventory, eliminates need to stock various sloping channel sections. Multiple outlets provide safety through redundancy, should any individual outlet become clogged. Proper flow is assured by use of sloped drain pipe.

Recommended Applications

- Driveways*
- Parking Lots*
- Warehouses
- Swimming Pools & Spas
- Washdown Areas
- Tennis Courts
- Sidewalks
- Patios
- Sports Facilities
- Nurseries & Greenhouses

*Refer to page 30 for specific asphalt installation instruction.

Installation

1. Standard Installation

Excavate a trench to accommodate the channel and bedding concrete. Erect a string line at each end of the drain run as a guide for laying the channels to the required level. Begin channel installation at the evacuation or discharge end of the run where the outlet or outlets are located.

Install channel end-to-end PVC cementing sections together. Design bottom or end outlets into the channel run in the appropriate location and glue to the drain pipe or fittings. PVC cement end caps where appropriate.

Using either NDS stakes, 1/2" or 5/8" rebar or wood stakes, anchor channel to the trench bed every 24" on each side of channel. Backfill with either concrete, sand, or soil depending on the application. Pour slab to grade and finish concrete.

Figure 1A illustrates a light vehicular installation in which a concrete base may not be required. Compacted soil and a 1" sand base may be used in place of concrete.

Figure 1B illustrates a concrete base underneath the channel recommended for heavy load applications or freeze/thaw zones where heaving may be a problem.

2. Suspended Installation

Suspended installation is ideal for retrofit installations with an existing concrete slab or new construction where forms can be used to suspend the channels. Prepare the trench excavation. Using 2" x 4" boards span the width of the trench and bolt the channel grates to the boards. Pour and compact concrete under and around the channels. Finish to the proper grade. Figure 2

3. Slurry Installation

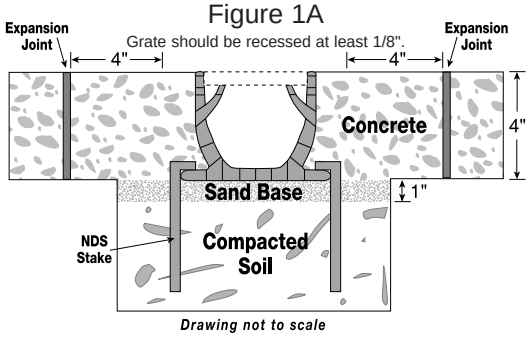
This installation may be used in lieu of the standard installation. Prepare the trench excavation and pull a stringline to the proper elevation. Pour a slurry of concrete in the trench to a depth that will insure at least 4" of concrete underneath the channels. Lay the channels in the bedding slurry. Check the channel alignment and grade again. After the slurry sets, concrete can be poured around the channel and finished to the proper grade. Figure 3

Important Installation Notes:

1. Refer to load classification chart for proper application.
2. PVC primer and medium body fast set PVC solvent cement must be used to cement all components.
3. Grate must be installed prior to pouring concrete or backfill.
4. Grates should be taped prior to pouring concrete to prevent debris from entering channel during installation.
5. **Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.**
6. In asphalt or hot mastic applications, the channels must be encased in concrete for strength and to prevent distortion of the channel.
7. Expansion joints must be provided parallel, but not immediately adjacent to each side of the drain run and crack control joints utilized at right angles to the channel for installation in concrete.
8. Grate must be installed and screwed down on channel at all times except for cleaning.

Mini and Spee-D Channel Only

Figure 1A



Mini, Spee-D, Dura and Pro Series Channel

Figure 1B

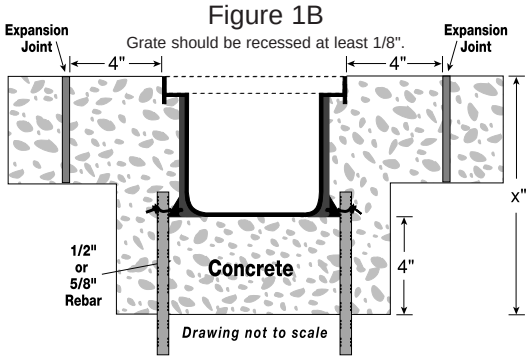


Figure 2

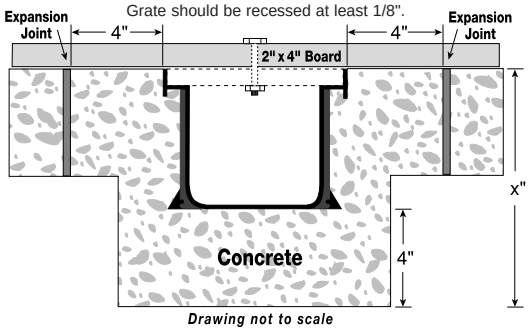
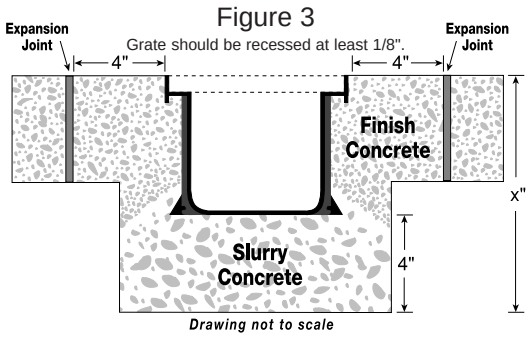


Figure 3



Note: All dimensions are nominal. All weights are for shipping purposes only.

Details

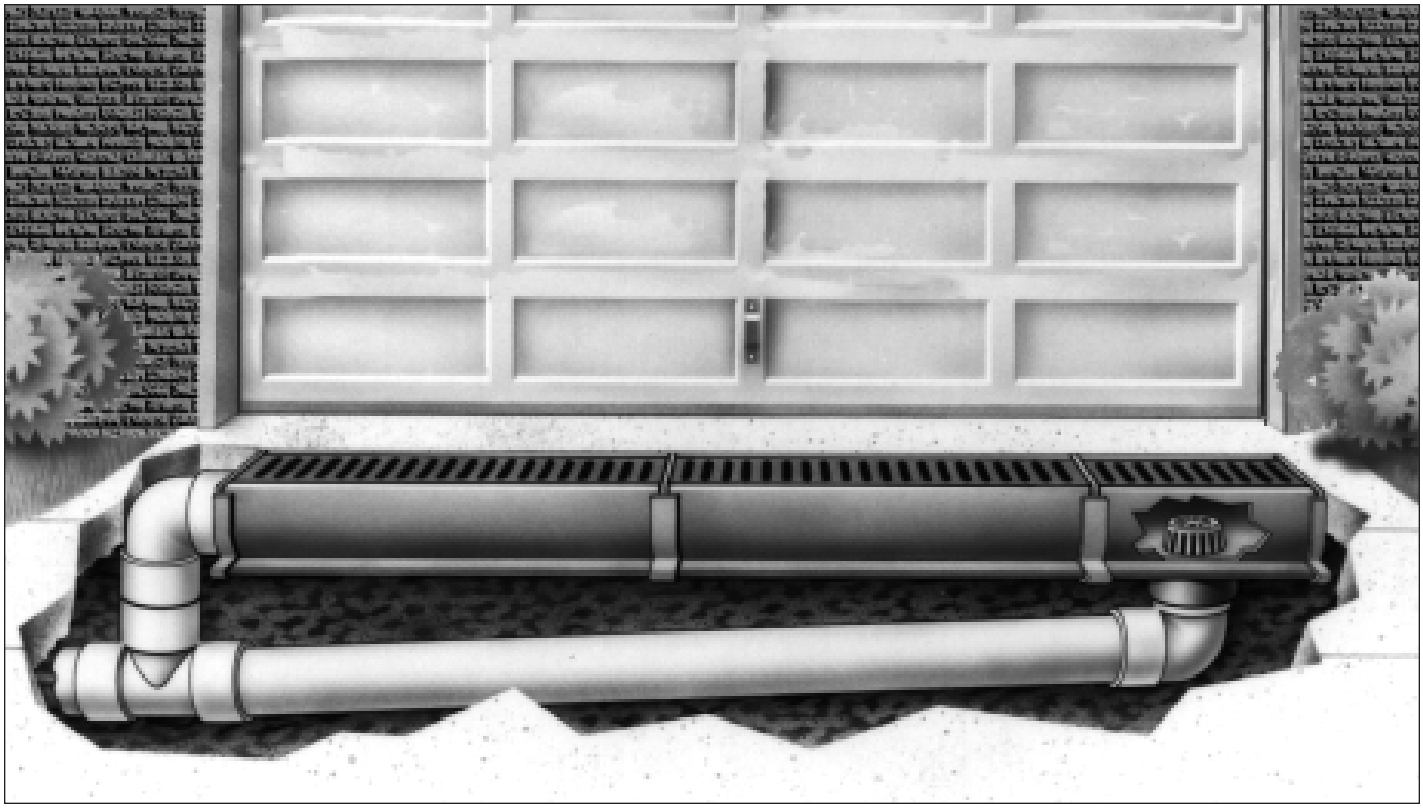
- Unique patented flying buttress design provides load bearing support from both sides as well as underneath.
- Available in four sizes: Dura Channel for traffic applications and large flow capacities, Spee-D for driveways, large decks and commercial areas, Mini for landscapes, pools or decks and Micro for residential pools and spas.

Installation

- Unique flanges on the bottom of the channel provide an anchoring lip for straight installation and prevents floating.
- Refer to page 29 for specific installation instructions.

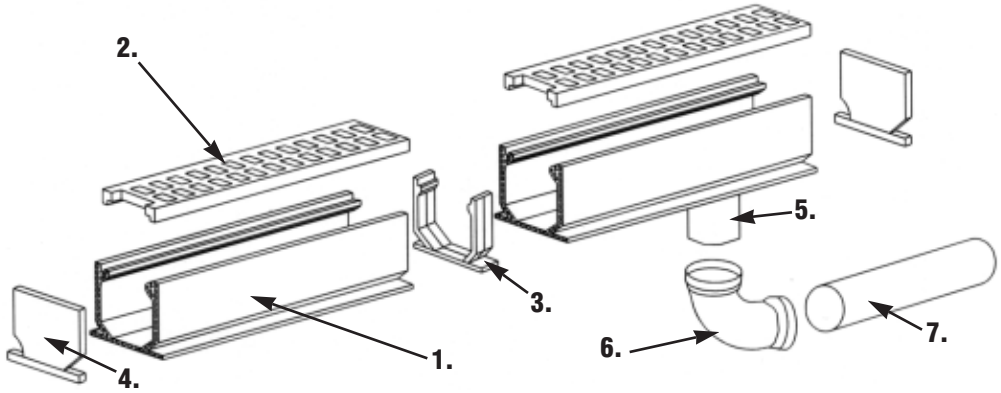
Materials and Standards

- Profile channel can be cut to any length and solvent-welded like PVC pipe. Sold by the foot.
- Grates available in six colors - see individual products for details.
- Mini Channel Grate also available in solid brass.
- Dura Channel offers plastic, cast iron and rolled steel grates used with steel or PVC frames.
- Channel system offers choice of bottom, end or side water evacuation.
- Concrete is not required under some channels for light vehicular applications. Standards vary per product - see individual section for details.



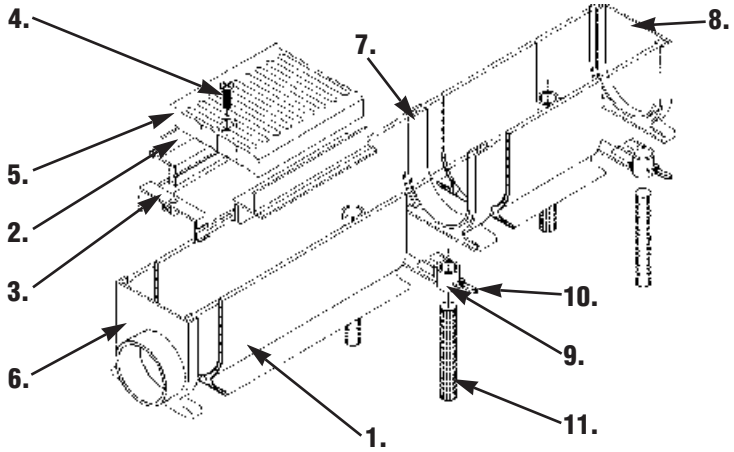
Note: All dimensions are nominal. All weights are for shipping purposes only.

Mini and Spee-D Channel System Components



1. Channel
2. Grate
3. Coupling
4. End Cap or End Outlet
5. Channel Bottom Outlet
6. Sewer and Drain Fitting
7. Drain Pipe

Dura Channel System Components (Shown here with Plastic Frame Assembly)

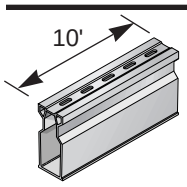


1. Dura Channel
2. Plastic Frame
   (Steel Frame Available)
3. Plastic Cross Bracket
4. Security Screw
5. Grate
6. Spigot End Outlet
   (Bottom Outlet Available)
7. Coupling
8. End Cap
9. Channel Feet
10. Thumbscrew
11. 1/2" or 5/8" Rebar

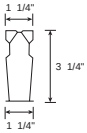
Note: All dimensions are nominal. All weights are for shipping purposes only.

MICRO CHANNEL™ DRAINS

• Excellent performance at lowest possible cost. • Designed for residential applications including swimming pools, spas and patios.
• Unique design features grate openings parallel to channel length and recessed grate for strength and effective water runoff.



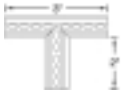
3/16" x 5/8" Grate Opening



(See pg. 51)

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
8001	10 ft. Long Micro Channel	White	100Ft	5.00	34.30	25PF	NDS #8001, #8002, and #8003, 10 ft. Micro Channel with Recessed Reinforced Grate Area, Parallel Drain Slots with UV inhibitor. Open surface area 2.50 square inches per linear foot. 3.28 GPM per foot.
8002	Includes 1 coupling	Sand	100Ft	5.00	34.30	25PF	
8003		Gray	100Ft	5.00	34.30	25PF	

MICRO ACCESSORIES

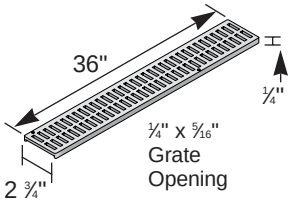
	Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
	230	6" Channel Installation Stake	Gray	24	0.04	0.71	25PF
	8301	Micro Channel 45° Elbow	White	5	0.30	7.50	25PF
	8302		Sand	5	0.30	7.50	25PF
	8303		Gray	5	0.30	7.50	25PF
	8371	Micro Channel Tee	White	5	0.40	11.28	25PF
	8372		Sand	5	0.40	11.28	25PF
	8373		Gray	5	0.40	11.28	25PF
	8381	Micro Channel 90° Elbow	White	5	0.40	7.50	25PF
	8382		Sand	5	0.40	7.50	25PF
	8383		Gray	5	0.40	7.50	25PF
	8461	Micro 1-1/2" Sch. 40 Spigot End Outlet	White	10	0.10	2.76	25PF
	8462		Sand	10	0.10	2.76	25PF
	8463		Gray	10	0.10	2.76	25PF
	8471	Micro End Plug	White	20	0.05	1.51	25PF
	8472		Sand	20	0.05	1.51	25PF
	8473		Gray	20	0.05	1.51	25PF
	8481	Micro Channel Couplings only Fits Inside Channel	White	20	0.10	1.51	25PF
	8501	Micro 1-1/2" Sch. 40 Spigot Bottom Outlet	White	10	0.35	8.54	25PF
	8502		Sand	10	0.35	8.54	25PF
	8503		Gray	10	0.35	8.54	25PF
	8511	Micro 1-1/2" Sch. 40 Spigot Side Outlet	White	10	0.35	8.54	25PF
	8512		Sand	10	0.35	8.54	25PF
	8513		Gray	10	0.35	8.54	25PF
	8601	Micro Hold Down Clips Use with Channel Stakes to Hold Channel in Place	White	20	0.10	1.51	25PF
	8651	Micro Channel Clean Out	White	10	0.30	5.11	25PF
	8652		Sand	10	0.30	5.11	25PF
	8653		Gray	10	0.30	5.11	25PF

NDS does not recommend heating or other techniques to radius the channel drain.
Note: All dimensions are nominal. All weights are for shipping purposes only.

MINI CHANNEL™ DRAINS

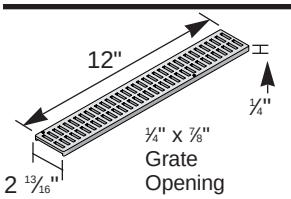
Patented

- Low-cost alternative to Spee-D Channel.
- Excellent for light duty applications including residential pools, patios, spas and tennis courts.



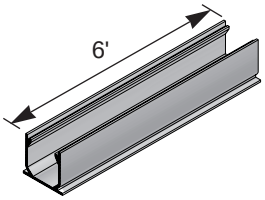
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
540	3 ft. Channel Grate	White	48ft	.688	11.67	25PF	NDS #540, #541, #542, #543, #544, #551, 3 ft. Structural Foam Polyolefin Channel Grate with UV inhibitor. Open surface area 11.30 square inches per foot. 14.80 GPM per foot.
541		Gray	48ft	.688	11.67	25PF	
542		Green	48ft	.688	11.67	25PF	
543		Black	48ft	.688	11.67	25PF	
544		Sand	48ft	.688	11.67	25PF	
551		Brick Red	48ft	.688	11.67	25PF	
	Requires 4 screws per Grate						

(See pg. 51)

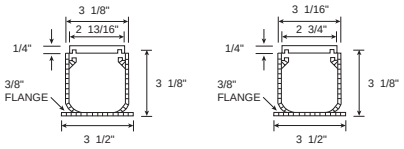


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
552B	1 ft. Brass Channel Grate	Satin Brass	1	1.25	53.14	25PF	NDS #552B or #553PB, 1 foot Mini Channel Solid Brass Grate with brass screws. Open surface area 10.00 square inches per foot. 13.10 GPM per foot.
553PB		Polished Brass	1	1.25	54.26	25PF	
	Fits #500 Mini Channel.						

(See pg. 51)



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
500	6 ft. Mini Channel Drain	Gray	48ft	4.00	38.82	25PF	NDS #500, 6 ft. PVC Mini Channel Drain with inverse flying buttress design, bottom flange, patented honeycomb reinforced walls and UV inhibitor.



Brass Grate Plastic Grate

Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.

MINI CHANNEL ACCESSORIES

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
529	Stainless Steel Screws Type FH -#4 x 3/8"	Steel	64	0.10	0.13	25PF
230	6" Channel Installation Stake	Gray	24	0.40	0.71	25PF

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
532	2" Sch. 40 Hub to 3" S&D Spigot Adapter	White	20	0.20	7.11	30PV

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
533	2" Sch. 40 Hub to 4" S&D Spigot Adapter	White	20	0.35	7.36	30PV

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
546	Spigot End Outlet for 2" Sch. 40 Pipe	Gray	10	0.30	5.36	25PF

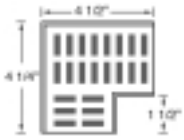
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
547	3" Channel End Cap	Gray	20	0.15	4.11	25PF

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
548	3" Channel Coupling	Gray	20	0.20	4.28	25PF

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
550	3' Long Channel with 2" Sch. 40 Spigot Bottom Outlet	Gray	6	2.17	23.56	25PF

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
5300	Fabricated 45° Elbow with Grate	Gray	1	0.40	13.37	25PF
5301		Green	1	0.40	13.37	25PF
5302		Black	1	0.40	13.37	25PF
5303		Sand	1	0.40	13.37	25PF
5304		Brick Red	1	0.40	13.37	25PF
5305		White	1	0.40	13.37	25PF

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
5370	Fabricated Tee with Grate	Gray	1	0.50	21.55	25PF
5371		Green	1	0.50	21.55	25PF
5372		Black	1	0.50	21.55	25PF
5373		Sand	1	0.50	21.55	25PF
5374		Brick Red	1	0.50	21.55	25PF
5375		White	1	0.50	21.55	25PF



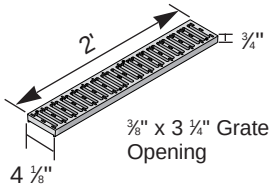
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
5380	Fabricated 90° Elbow with Grate	Gray	1	0.40	13.83	25PF
5381		Green	1	0.40	13.83	25PF
5382		Black	1	0.40	13.83	25PF
5383		Sand	1	0.40	13.83	25PF
5384		Brick Red	1	0.40	13.83	25PF
5385		White	1	0.40	13.83	25PF

NDS does not recommend heating or other techniques to radius the channel drain.
Note: All dimensions are nominal. All weights are for shipping purposes only.

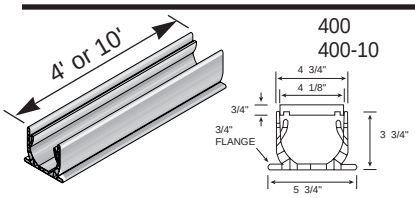
SPEE-D CHANNEL™ DRAINS

Patented

- Ideal for commercial as well as residential applications.
- Effective in everything form patios to light vehicular traffic areas.



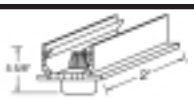
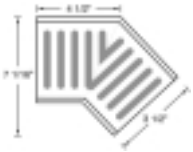
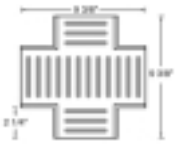
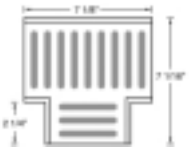
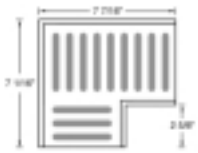
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
240	2 ft. Channel Grate	White	24ft	1.42	19.30	25PF	NDS #240, #241, #242, #243, #244, #251, 2 ft. Structural Foam Polyolefin Secured Channel Grate with UV inhibitor. Open surface area 19.30 square inches.
241		Gray	24ft	1.42	19.30	25PF	
242		Green	24ft	1.42	19.30	25PF	
243		Black	24ft	1.42	19.30	25PF	
244	(See pg. 51)	Sand	24ft	1.42	19.30	25PF	
251	Requires 4 screws per grate	Brick Red	24ft	1.42	19.30	25PF	



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
400	4 ft. Channel Drain	Gray	24ft	4.83	36.80	25PF	NDS #400, 4 ft. PVC Spee-D Channel Drain with Inverse Flying buttress design, bottom flange, patented honeycomb reinforced walls and UV inhibitor.
400-10	10 ft. Channel Drain	Gray	60ft	11.00	92.00	25PF	

Grate should be recessed 1/8" below finish grade in non traffic applications.
Grate should be recessed 1/4" in traffic applications.

SPEE-D ACCESSORIES

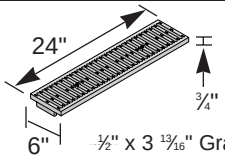
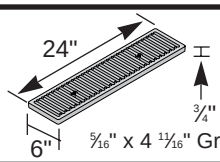
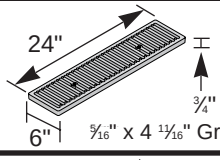
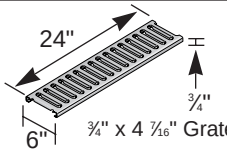
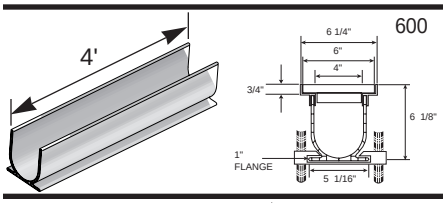
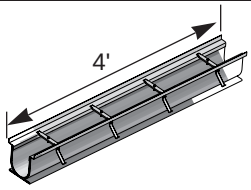
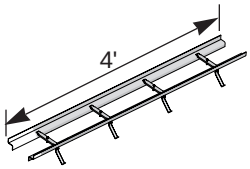
	Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
	229	Stainless Steel Screws	Steel	48	0.06	0.17	25PF
	230	6" Channel Installation Stake	Gray	24	0.04	0.71	25PF
	234	2' long fabricated 3" & 4" Spigot Bottom Outlet with Strainer. Fits 3" or 4" Sewer and Drain Fittings. Grates not included.	Gray	12	2.67	26.20	25PF
	245	Channel Stainer Coupling	Gray	20	0.35	5.87	25PF
	246	2" Schedule 40 SPT End Outlet	Gray	10	0.40	5.52	25PF
	247	Channel End Cap	Gray	10	0.40	4.73	25PF
	248	Channel Coupling	Gray	20	0.40	4.73	25PF
	249	3" & 4" Offset End Outlet (connects to 3" S&D Pipe, 4" S&D Fittings)	Gray	10	0.50	5.52	25PF
	2300	Fabricated 45° Elbow with Grate	White	1	2.00	30.00	25PF
	2301		Gray	1	2.00	30.00	25PF
	2302		Green	1	2.00	30.00	25PF
	2303		Black	1	2.00	30.00	25PF
	2304		Sand	1	2.00	30.00	25PF
	2305		Brick Red	1	2.00	30.00	25PF
	2360	Fabricated Cross and Grate	White	1	3.00	42.63	25PF
	2361		Gray	1	3.00	42.63	25PF
	2362		Green	1	3.00	42.63	25PF
	2363		Black	1	3.00	42.63	25PF
	2364		Sand	1	3.00	42.63	25PF
	2365		Brick Red	1	3.00	42.63	25PF
	2370	Fabricated Tee with Grate	White	1	3.00	31.58	25PF
	2371		Gray	1	3.00	31.58	25PF
	2372		Green	1	3.00	31.58	25PF
	2373		Black	1	3.00	31.58	25PF
	2374		Sand	1	3.00	31.58	25PF
	2375		Brick Red	1	3.00	31.58	25PF
	2380	Fabricated 90° Elbow with Grate	White	1	3.00	25.25	25PF
	2381		Gray	1	3.00	25.25	25PF
	2382		Green	1	3.00	25.25	25PF
	2383		Black	1	3.00	25.25	25PF
	2384		Sand	1	3.00	25.25	25PF
	2385		Brick Red	1	3.00	25.25	25PF

NDS does not recommend heating or other techniques to radius the channel drain.
Note: All dimensions are nominal. All weights are for shipping purposes only.

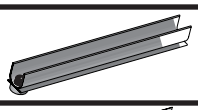
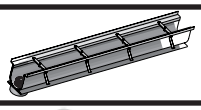
DURA CHANNEL™ DRAINS

Patented

- Heavy-duty 6" channel works in both residential and commercial projects, from driveway to pneumatic lift fork applications.
- Choose form plastic, galvanized steel or cast iron grate with steel or plastic frame.

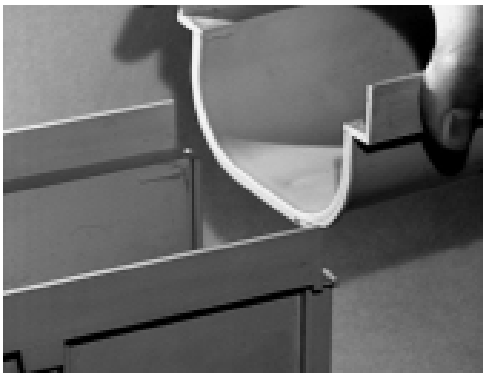
	Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
	660	2 ft. Channel Grate	White	24 ft	2.92	26.12	25PF	NDS #660, #661, #662, #663, #664, #665, 2 ft. Structural Foam Polyolefin secured channel grate with UV inhibitor. Open surface area 20.61 square inches per foot. 27.00 GPM per foot.
	661LG		Gray	24 ft	2.92	26.12	25PF	
	662		Green	24 ft	2.92	26.12	25PF	
	663	(See pg. 51)	Black	24 ft	2.92	26.12	25PF	
	664		Sand	24 ft	2.92	26.12	25PF	
	665		Brick Red	24 ft	2.92	26.12	25PF	
	Use with Dura Channel Drains (page 36), Dura Slope Drains (page 45), Dura Slope Catch Basins (page 47).							
	DS-231	2 ft. Cast Iron Channel Grate	Black	1	15.00	36.32	25DS	#DS-231 2 ft. Heavy Duty Cast Iron Channel Grate. Open surface area 15.27 square inches per foot. 20.00 GPM per foot. H-20 Load Rating.
	(See pg. 51)	Use with Dura Channel Drains (page 36), Dura Slope Drains (page 45), Dura Slope Catch Basins (page 47).						
	DS-232	2 ft. Ductile Iron Channel Grate	Black	1	16.00	55.20	25DS	NDS #DS-232, 2 ft. Heavy Duty Ductile Iron Channel Grate. Open surface area 15.27 square inches per foot. 20.00 GPM per foot.
	(See pg. 51)	Use with Dura Channel Drains (page 36), Dura Slope Drains (page 45), Dura Slope Catch Basins (page 47).						
	DS-221	2 ft. Galvanized Steel Channel Grate	Steel	24 ft	4.00	30.88	25DS	NDS #DS-221, 2 ft. Galvanized Rolled Steel Grate. Open surface area 19.85 square inches per foot. 26.00 GPM per foot.
	(See pg. 51)	Use with Dura Channel Drains (page 36), Dura Slope Drains (page 45), Dura Slope Catch Basins (page 47).						
	600	4' Channel Drain Only **Note: Channel drain #600 requires a frame, either part #670 or #668** **Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.**	Gray	24 ft	4.67	56.36	25PF	NDS #600, 4 ft. PVC Dura Channel with inverse flying buttress design, bottom flange, patented honey-comb reinforced walls with PVC frame and cross bracket with UV inhibitor.
	610	4' Channel Drain with Steel Frame Assembly **Hardware included**	Steel	24 ft	15.00	155.57	25PF	NDS #610, 4 ft. PVC Dura Channel with inverse flying buttress design, bottom flange, patented honeycomb reinforced walls with UV inhibitor. Galvanized Steel Frame, Cross Brackets and Bolts.
	668*	4' Steel Frame Only	Steel	24 ft	8.33	102.40	25PF	
	670*	4' Plastic Frame Only	Gray	24 ft	2.33	38.89	25PF	
	Dura Grate load classes are for either steel or plastic frame on channel. ***Hardware included**							

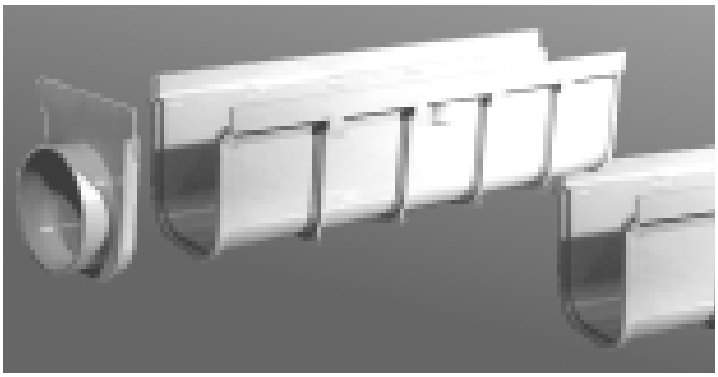
DURA ACCESSORIES

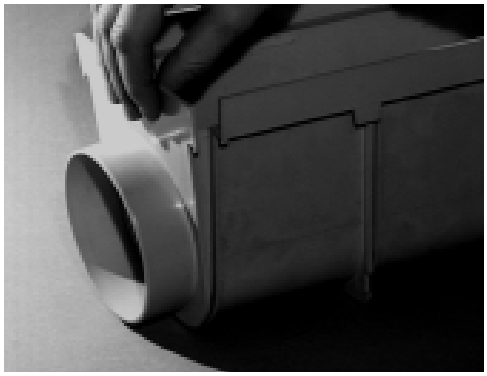
	Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
	634	4' long 3" & 4" Spigot Bottom Outlet Fits 3" & 4" Sewer and Drain Fittings **Note: Channel drain #600 requires a frame, either part #670 or #668**	Gray	1	6.00	58.15	25PF
	635	4' long 3" & 4" Spigot. Bottom Outlet with Steel frame assembly. Fits 3" & 4" Sewer and Drain Fittings (Hardware Included)	Gray	1	15.00	166.70	25PF
	646	Installation Foot	Gray	12	0.33	4.56	25PF
	647	End Cap	Gray	10	0.60	11.91	25PF
	648	Channel Coupling	Gray	20	0.35	11.91	25PF
	649	4" End Outlet Fits 4" Sewer and Drain Fittings	Gray	5	0.80	13.07	25PF

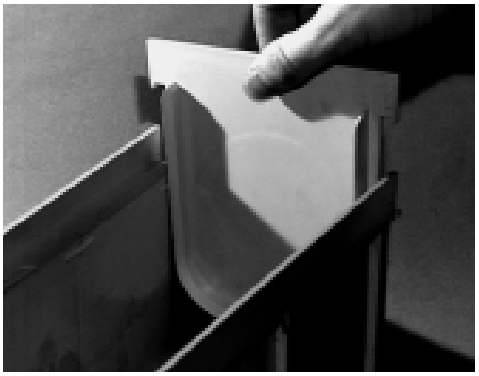
NDS does not recommend heating or other techniques to radius the channel drain.
Note: All dimensions are nominal. All weights are for shipping purposes only.

Pro Series Channel
Sold by the piece


Mechanical Interlocking Joints


Modular Design Allows Flexibility

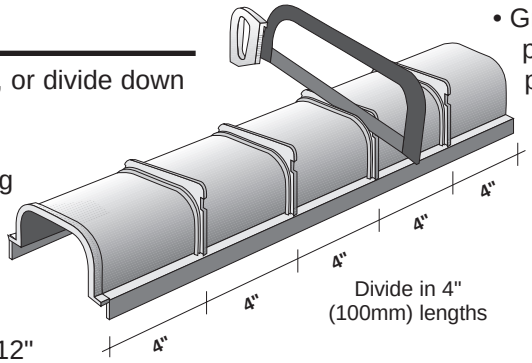

End Cap/Knock Out End
Outlet Combination fitting


End Cap/End Outlet Slides
into Interlocking Joints

• Flexible and easy: side and bottom outlets can be inserted at any location along the channel run.

Details

- Create a channel as long as you need, or divide down to lengths as short as 4" for smaller, interlocking sections.
- End cap/knock-out end and outlet fitting simplifies assembly and installation.
- Flexible and easy: side and bottom outlets can be inserted at any location along the channel run.
- Available in four widths: 3", 5", 8" and 12"
- Available in two depths: deep for heavy flows, shallow for slabs or where little fall depth is available.
- Modular design comes in ½ meter (19 ⅞") and 1 meter (39 ¾") pieces with interlocking end joints.
- Joints eliminate couplings and are specially designed to withstand concrete expansion and contraction.



Divide in 4"
(100mm) lengths

- Grate, channel and component parts include UV inhibitors to prevent fading and cracking.
  - Load Star grate is designed with a patented multi-link I-beam structure providing the strength of traditional cast iron grates.

Materials and Standards

- PVC solvent cement creates a structurally-compact, water-tight channel.

Load Recommendations

- Pedestrian Grates offer heel-proof pattern.
- Polyolefin Light Vehicular Grate for use in areas with passenger vehicles and light trucks with speeds less than 20 MPH.
- Load Star Glass-Filled Reinforced-Nylon Heavy Traffic Grate for use in areas with tractor-trailer and pneumatic forklift traffic with speeds less than 20 MPH.
- See individual products for details.

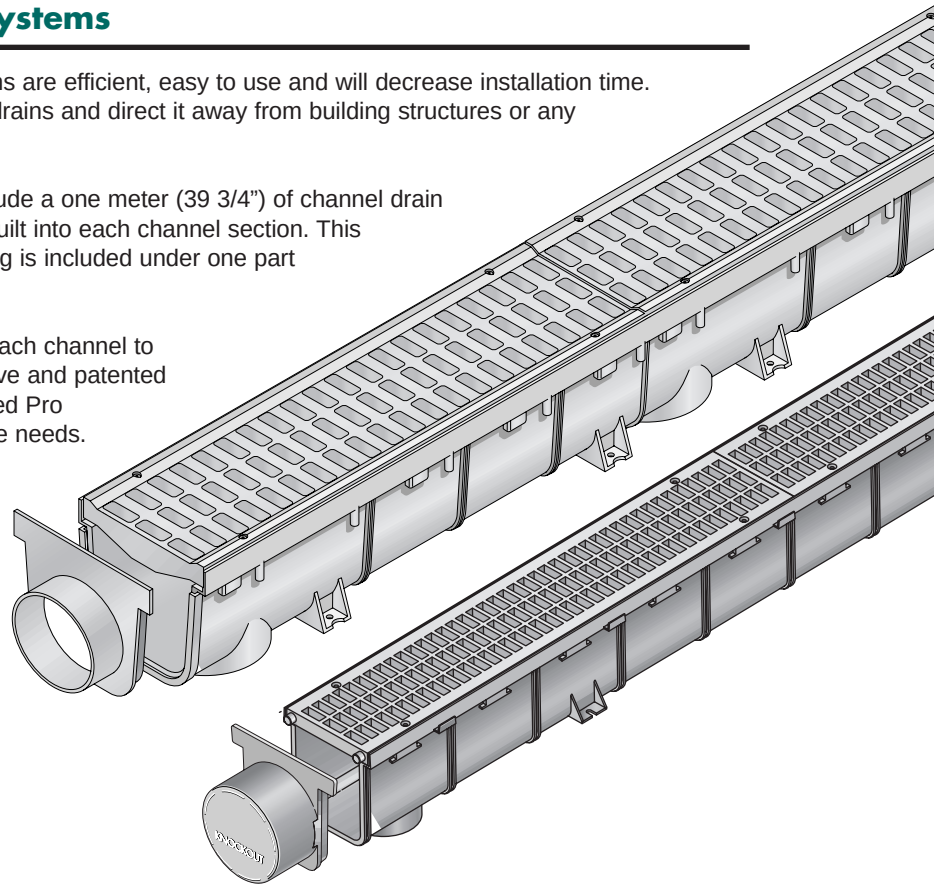
Note: All dimensions are nominal. All weights are for shipping purposes only.

New Pre-assembled Channel Drain Systems

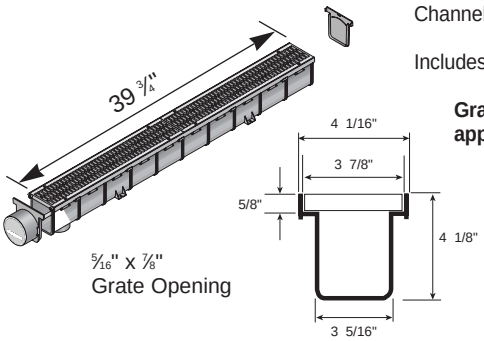
The NEW pre-assembled Modular Pro Series channel drains are efficient, easy to use and will decrease installation time. They quickly remove water from hardscapes as perimeter drains and direct it away from building structures or any other area requiring surface drainage.

The new 3” and 5” wide pre-assembled channel drains include a one meter (39 3/4”) of channel drain and grate, 1 end outlet, and 1 end cap. A bottom outlet is built into each channel section. This allows for easy ordering and less inventorying, as everything is included under one part number.

Our unique Pro Series interlocking channel design allows each channel to securely lock to the next for a secure, tight fit. This innovative and patented design eliminates the need for couplings. The pre-assembled Pro Series Channel drains are a great solution for your drainage needs.

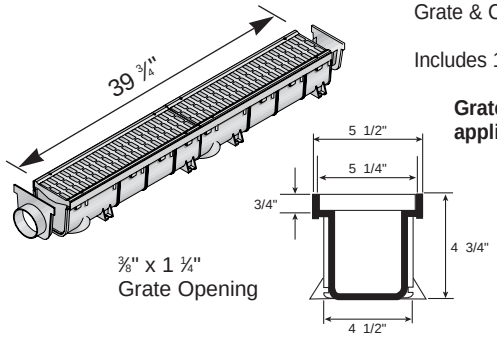


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
764	3" x 1 Meter Light Traffic Channel Grate & Channel Drain Kit Includes 1 end outlet (#713) and 1 end cap (#712) **Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.**	Light Gray	10	3.75	42.00	25IN	NDS #764, 3" wide high impact PVC light traffic channel grate and high impact PVC Channel Drain with mechanical interlocking joints and UV inhibitors. Open surface area 20.44 square inches per foot. 26.77 GPM per foot.



(See pg. 51)

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
864	5" x 1 Meter Light Traffic Channel Grate & Channel Drain Kit Includes 1 end outlet (#813) and 1 end cap (#812) **Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.**	Light Gray	9	7.11	72.33	25IN	NDS #864, 5" Wide Structural Foam Polyolefin light traffic channel grate and deep profile high impact PVC channel drain with mechanical interlocking joint and UV inhibitors. Open surface area 25.12 square inches per foot. 32.91 GPM per foot.

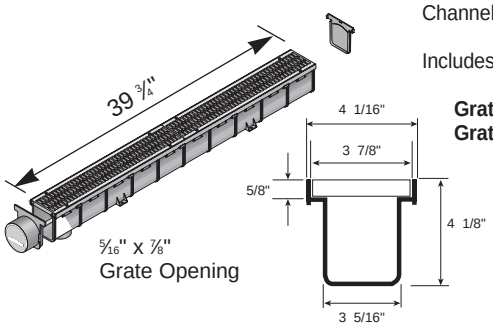


Note: All dimensions are nominal. All weights are for shipping purposes only.

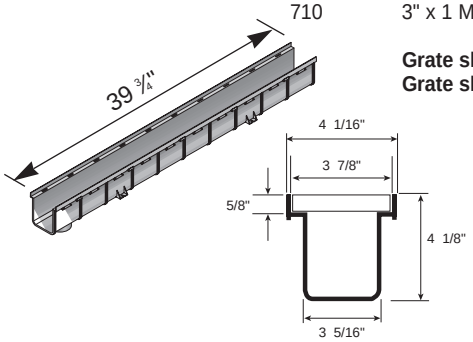
3" PRO SERIES CHANNEL™ DRAINS

Patented

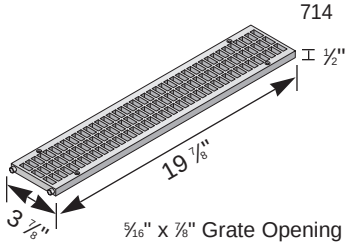
*Produced under license of First Plast S.R.L.- Italy



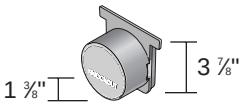
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
764	3" x 1 Meter Light Traffic Channel Grate & Channel Drain Kit Includes 1 end outlet (#713) and 1 end cap (#712) **Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.** (See pg. 51)	Light Gray	10	3.75	42.00	25IN	NDS #764, 3" wide high impact PVC light traffic channel grate and high impact PVC Channel Drain with mechanical interlocking joints and UV inhibitors. Open surface area 20.44 square inches per foot. 26.77 GPM per foot.



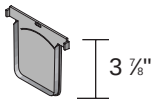
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
710	3" x 1 Meter Channel Drain **Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.** (See pg. 51)	Light Gray	12	2.50	23.94	25IN	NDS #710, 3" wide high impact PVC Channel Drain with mechanical interlocking joints.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
714	3" x 20" Light Traffic Channel Grate (See pg. 51)	Light Gray	24	1.00	6.47	25IN	NDS #714, 3" wide high impact PVC light traffic channel grate. Open surface area 20.44 square inches per foot. 26.77 GPM per foot.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
713	3" End Cap/End Outlet Fits 3" fittings	Light Gray	12	0.25	4.73	25IN	NDS #713, 3" high impact PVC End Cap/End Outlet.



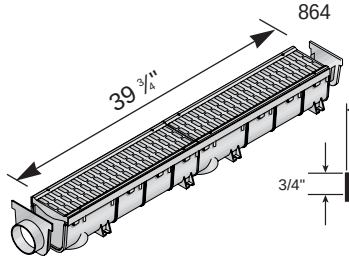
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
712	3" End Cap	Light Gray	20	0.10	4.20	25IN	NDS #712, 3" high impact PVC End Cap.

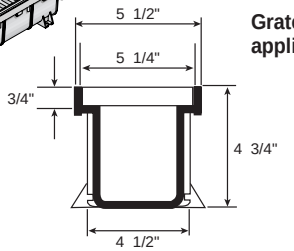
Note: All dimensions are nominal. All weights are for shipping purposes only.

5" PRO SERIES CHANNEL™ DRAINS

Patented

*Produced under license of First Plast S.R.L.- Italy



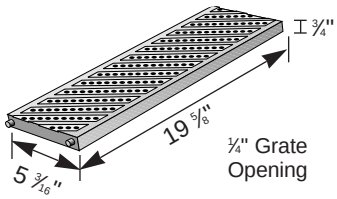


3/8" x 1 1/4"
Grate Opening

Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.

(See pg. 51)

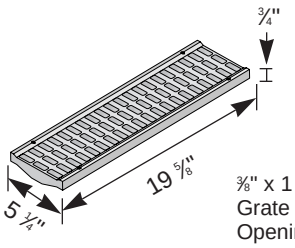
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
864	5" x 1 Meter Light Traffic Grate & Channel Drain Kit Includes 1 end outlet & 1 end cap	Light Gray	9	7.11	72.33	25IN	NDS #864, 5" Wide Structural Foam Polyolefin light traffic channel grate and deep profile high impact PVC channel drain with mechanical interlocking joint and UV inhibitors. Open surface area 25.12 square inches per foot. 32.91 GPM per foot.



1/4" Grate Opening

(See pg. 51)

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
826*	5" x 20" Pedestrian Traffic Channel Grate Requires #829 screws.	Light Gray	10	1.00	31.58	25IN	NDS #826, 5" Wide UV protected high impact Polyolefin pedestrian traffic channel grate. Open surface area 7.93 square inches per foot. 10.39 GPM per foot.

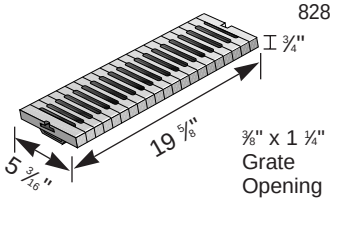


3/8" x 1 1/4"
Grate Opening

(See pg. 51)

Requires #829 screws.

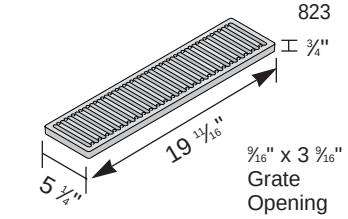
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
814	5" x 20" Light Traffic Channel Grate	Light Gray	10	1.20	16.20	25IN	NDS #814, #815, #816, #817, #818, #819, 5" Wide Structural Foam Polyolefin light traffic channel grate with UV inhibitors. Open surface area 25.12 square inches per foot. 32.91 GPM per foot.
815	5" x 20" Light Traffic Channel Grate	Green	10	1.20	16.20	25IN	
816	5" x 20" Light Traffic Channel Grate	Black	10	1.20	16.20	25IN	
817	5" x 20" Light Traffic Channel Grate	Sand	10	1.20	16.20	25IN	
818	5" x 20" Light Traffic Channel Grate	Brick Red	10	1.20	16.20	25IN	
819	5" x 20" Light Traffic Channel Grate	White	10	1.20	16.20	25IN	



3/8" x 1 1/4"
Grate Opening

(See pg. 51)

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
828	5" x 20" Load Star Heavy Traffic Channel Grate Requires 4 Screws per Grate Fabricated Tees, 45° Elbows & 90° Elbows are available upon request. Requires #829 screws.	Gray	10	2.00	66.78	25IN	NDS #828, 5" Wide UV protected high impact glass reinforced nylon heavy traffic channel grate. Open surface area 15.54 square inches per foot. 20.36 GPM per foot.



9/16" x 3 9/16"
Grate Opening

(See pg. 51)

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
823	5"x20" Cast Iron Channel Grate	Black	11	10.00	66.78	25IN	NDS #823, 5" Wide Heavy Duty Cast Iron Heavy Traffic Channel Grate. Open surface area 25.03 square inches per foot. 32.79 GPM per foot.

(See pg. 51)

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
829	#6 x 1 1/4" Stainless Steel Screws	Steel	40	–	.07	25PF	

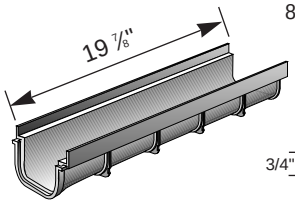
*These grates use #829 screws.

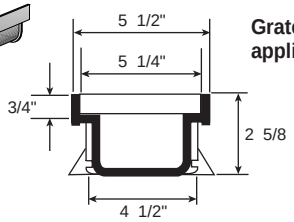
Note: All dimensions are nominal. All weights are for shipping purposes only.

5" PRO SERIES CHANNEL™ DRAINS

Patented

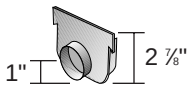
*Produced under license of First Plast S.R.L.- Italy



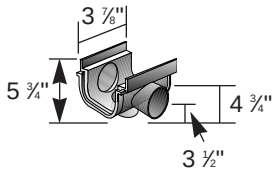


Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.

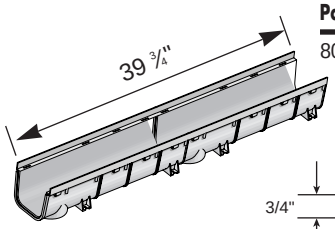
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
820	5" x 20" Shallow Profile Channel Drain	Light Gray	10	1.35	20.55	25IN	NDS #820, 5" Wide Shallow Profile UV protected high impact PVC Channel Drain with Mechanical Interlocking Joint.

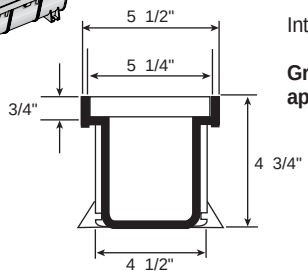


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
821	5" Shallow Profile End Cap/ 1-1/2" SCH 40 SPT Knock Out End Outlet	Light Gray	10	0.15	9.47	25IN	NDS #821, 5" Wide Shallow Profile high impact PVC End Cap/End Outlet.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
822	5" Shallow Profile 3" S&D SPT Bottom Outlet/ 1-1/2" SCH 40 SPT Side Outlet	Light Gray	10	0.60	19.86	25IN	NDS #822, 5" Wide Shallow Profile high impact PVC Bottom/Side Outlet.

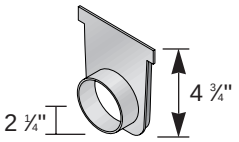




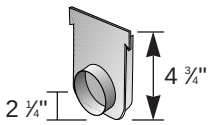
Integrated Knock out bottom outlet fits 3" and 4" S&D Fittings.

Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.

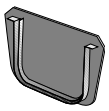
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
800	5" x 1 Meter Deep Profile Channel Drain	Light Gray	10	4.00	33.60	25IN	NDS #800, 5" Wide Deep Profile high impact PVC Channel Drain With Mechanical Interlocking Joints, Installation feet, integrated knock out bottom outlet.



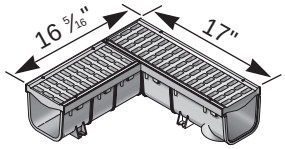
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
811	5" Deep Profile 3" S&D Pipe Hub & 4" S&D Fitting SPT End Outlet	Light Gray	10	0.40	5.74	25IN	NDS #811, 5" Wide Deep Profile high impact PVC End Outlet.



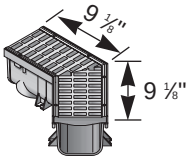
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
813	5" Deep Profile End Cap/3" S&D Hub & 4" S&D SPT Knock Out End Outlet	Light Gray	10	0.40	5.88	25IN	NDS #813, 5" Wide Deep Profile high impact PVC End Cap/End Outlet.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
812	5" Deep Profile End Cap	Light Gray	10	0.20	4.91	25IN	NDS #812, 5" Wide Deep Profile high impact PVC End Cap.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
861	5" Deep Profile Grate & Channel Drain 90 Degree Elbow	Light Gray	1	3.44	40.68	25IN	

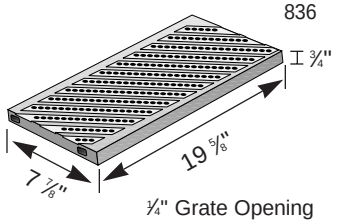


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
862	5" Deep Profile Grate & Channel Drain 45 Degree Elbow	Light Gray	1	3.44	40.68	25IN	

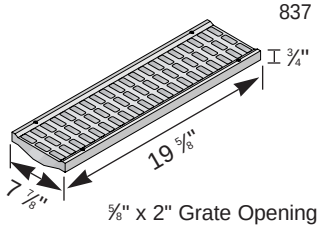
Note: All dimensions are nominal. All weights are for shipping purposes only.

8" PRO SERIES CHANNEL™ DRAINS

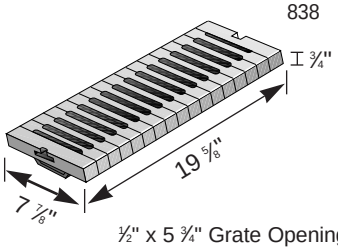
Patented



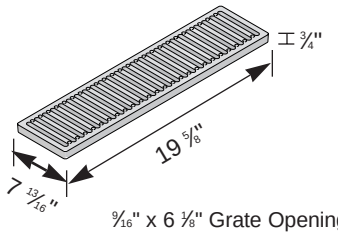
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
836	8" x 20" Pedestrian Traffic Channel Grate Requires #829 screws. (See pg. 51)	Light Gray	1	1.55	39.69	25IN	NDS #836, 8" Wide UV protected high impact Polyolefin pedestrian traffic channel grate. Open surface area 11.70 square inch/foot. 15.33 GPM per foot.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
837	8" x 20" Light Traffic Channel Grate Requires #829 screws. (See pg. 51)	Light Gray	1	3.00	44.63	25IN	NDS #837, 8" Wide UV protected high impact Polyolefin light traffic channel grate. Open surface area 26.94 square inch/foot. 35.29 GPM per foot.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
838	8" x 20" Load Star Heavy Traffic Channel Grate Requires #829 screws. (See pg. 51)	Light Gray	1	4.00	83.32	25IN	NDS #838, 8" Wide UV protected high impact glass reinforced nylon heavy traffic channel grate. Open surface area 30.85 square inch/foot. 40.41 GPM per foot.



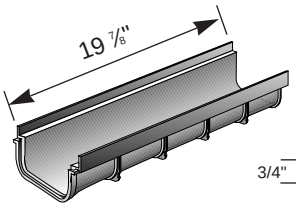
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
888	8"x20" Cast Iron Channel Grate (See pg. 51)	Black	1	14.00	83.32	25IN	NDS #828, 8" Wide Heavy Duty Cast Iron Heavy Traffic Channel Grate. Open surface area 41.25 square inches per foot. 54.04 GPM per foot.

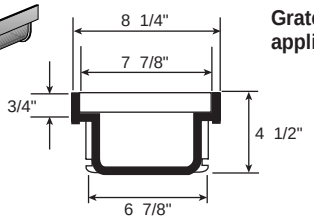
These grates use #829 screws.

Note: All dimensions are nominal. All weights are for shipping purposes only.

8" PRO SERIES CHANNEL™ DRAINS

Patented

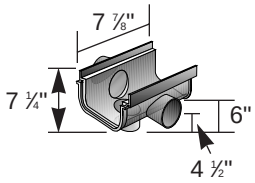




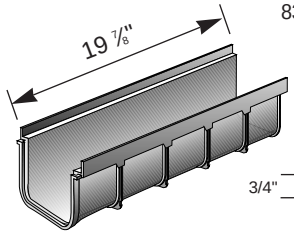
Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.

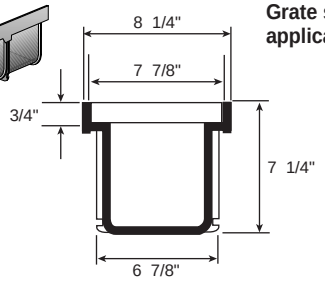
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
830	8" x 20" Shallow Profile Channel Drain	Light Gray	1	2.00	28.60	25IN	NDS #830, 8" Wide Shallow Profile high impact PVC channel drain with mechanical interlocking joints and UV inhibitors.

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
831	8" Shallow Profile End Cap/ 3" S&D SPT Knock Out End Outlet	Light Gray	1	0.40	16.07	25IN	NDS #831, 8" Wide Shallow Profile high impact PVC End Cap/End Outlet.



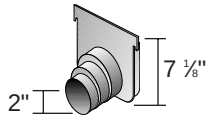
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
832	8" Shallow Profile 3" S&D SPT Bottom Side Outlet	Light Gray	1	1.00	54.12	25IN	NDS #832, 8" Wide Shallow Profile high impact PVC Bottom/Side Outlet.



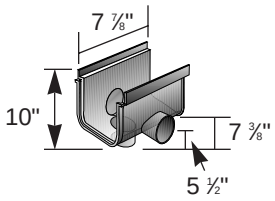


Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
833	8" x 20" Deep Profile Channel Drain	Light Gray	1	3.00	36.60	25IN	NDS #833, 8" Wide Deep Profile high impact PVC channel drain with mechanical interlocking joints and UV inhibitors.

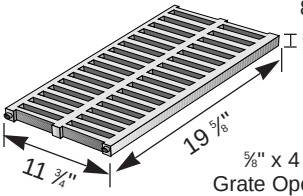


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
834	8" Deep Profile End Cap/ 3"&4" S&D SPT Knock Out End Outlet	Light Gray	1	1.20	20.56	25IN	NDS #834, 8" Wide Deep Profile high impact PVC End Cap/End Outlet.



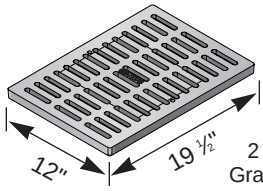
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
835	8" Deep Profile 4" S&D Hub Bottom/Side Outlet	Light Gray	1	2.24	71.55	25IN	NDS #835, 8" Wide Deep Profile high impact PVC Bottom/Side Outlet.

Note: All dimensions are nominal. All weights are for shipping purposes only.



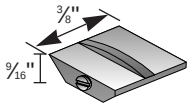
⅝" x 4 ¾"
Grate Opening

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
847	12" x 20" Light Traffic Channel Grate (See pg. 51)	Gray	1	4.64	99.32	25IN	NDS #847, 12" Wide UV protected high impact PVC light traffic channel grate. Open surface area 48.77 square inch/foot. 63.89 GPM per foot.



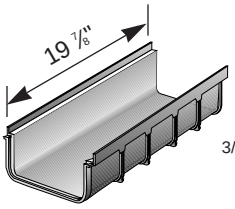
2 13⁄16" x 9⁄16"
Grate Opening

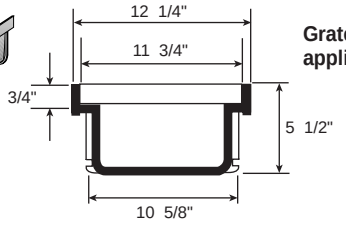
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
845	12"x20" Cast Iron Heavy Traffic Channel Grate (See pg. 51)	Black	1	31.92	126.76	25IN	NDS #845, 12" wide cast iron heavy traffic channel grate. Open surface area 38.58 square inches per foot. 50.54 GPM per foot.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
849	Grate Security Clip*	Gray	10	0.40	4.38	25IN	

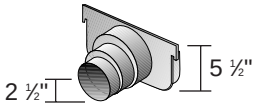
*For use with 847 grate and 840 or 843 channel drain only (2 per grate)
Mounts inside Channel Drain and secures grate.



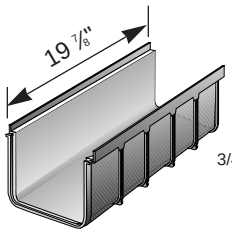


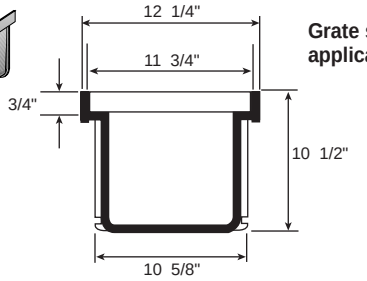
Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.

Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
840	12" x 20" Shallow Profile Channel Drain	Light Gray	1	4.00	92.94	25IN	NDS #840, 12" Wide Shallow profile UV protected high impact PVC channel drain with mechanical Interlocking Joints.



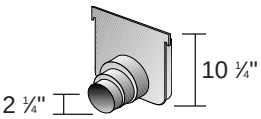
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
841	12" Shallow Profile End Cap/ 4" S&D SPT Knock Out End Outlet	Light Gray	1	1.00	34.51	25IN	NDS #841, 12" Wide Shallow Profile high impact PVC End Cap/End Outlet.





Grate should be recessed 1/8" below finish grade in non traffic applications. Grate should be recessed 1/4" in traffic applications.

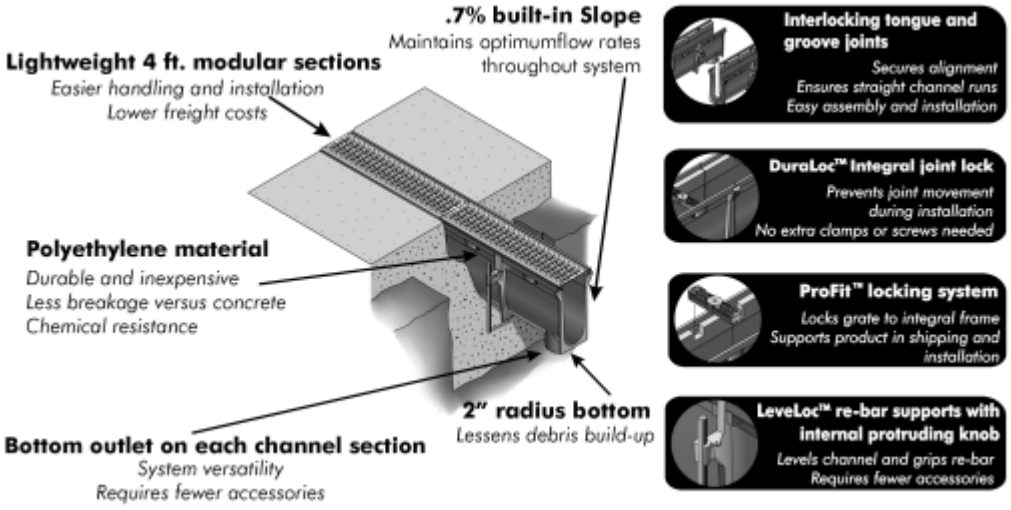
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
843	12" x 20" Deep Profile Channel Drain	Light Gray	1	6.00	134.55	25IN	NDS #843, 12" Wide Deep Profile UV protected high impact PVC channel drain with mechanical interlocking joints.



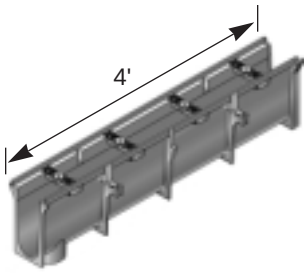
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
844	12" Deep Profile End Cap/ 4" S&D SPT Knock Out End Outlet	Light Gray	1	1.60	46.58	25IN	NDS #844, 12" Wide Deep Profile high impact PVC End Cap/End Outlet.

Note: All dimensions are nominal. All weights are for shipping purposes only.

DURA SLOPE™ CHANNEL DRAINS

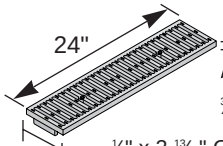
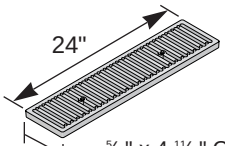
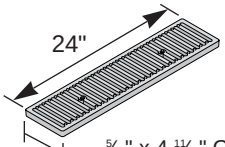
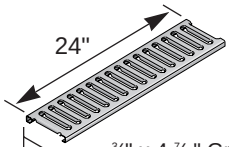


Specifications: NDS Dura Slope™ is a 6-5/8" wide trench drain system with a built-in slope of 0.7%. Each channel section is molded of gray structural foam polyethylene with UV inhibitors and has a 4" inside diameter with a 2" radius bottom. The system consists of 4-foot channel sections including twelve pre-sloped channel sections and four neutral channel sections. The sloped channel sections enable the Dura Slope™ system to extend to a length of 48 feet with a continuous 0.7% slope. Utilize neutral channels to extend the system run to an excess of 60 feet. By incorporating central collection through the use of the basin assembly, the Dura Slope™ trench drain system can be extended to lengths up to 120 feet. Dura Slope™ channels are provided with the pre-installed Pro Fit™ locking system, which maintains structural integrity during shipping and installation and locking devices for the grating. Leve Loc™ integral re-bar supports are located at 24" intervals along each side of the channel and contain an internal protruding knob designed to grip #4 re-bar (1/2") for easier channel height adjustment during installation. Dura Loc™ tongue and groove ends connect allowing for a precise fit and ensure straight channel runs. Dura Loc™ joints incorporate an integral snap-lock feature that prevents joint movement during channel installation. Each channel section is molded with a bottom outlet allowing for system versatility and ensuring proper drainage.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	
DS-100N	7.38" Deep Neutral Dura Slope Channel	Gray	1	8.86	92.28	25DS	For Grates, see page 35.
DS-101	7.38" to 7.72" Deep Dura Slope Channel	Gray	1	8.94	92.28	25DS	
DS-102	7.72" to 8.06" Deep Dura Slope Channel	Gray	1	9.22	92.28	25DS	
DS-103	8.06" to 8.4" Deep Dura Slope Channel	Gray	1	9.47	92.28	25DS	
DS-103N	8.4" Deep Neutral Dura Slope Channel	Gray	1	9.42	92.28	25DS	
DS-104	8.40" to 8.74" DeepDura Slope Channel	Gray	1	9.75	92.28	25DS	
DS-105	8.74" to 9.08" Deep Dura Slope Channel	Gray	1	10.03	92.28	25DS	
DS-106	9.08" to 9.42" Deep Dura Slope Channel	Gray	1	10.31	92.28	25DS	
DS-106N	9.42" Deep Neutral Dura Slope Channel	Gray	1	10.29	92.28	25DS	
DS-107	9.42" to 9.76" Deep Dura Slope Channel	Gray	1	10.59	92.28	25DS	
DS-108	9.76" to 10.10" Deep Dura Slope Channel	Gray	1	10.86	92.28	25DS	
DS-109	10.1" to 10.44" Deep Dura Slope Channel	Gray	1	11.14	92.28	25DS	
DS-109N	10.44" Deep Neutral Dura Slope Channel	Gray	1	11.17	92.28	25DS	
DS-110	10.44" to 10.78" Deep Dura Slope Channel	Gray	1	11.42	92.28	25DS	
DS-111	10.78" to 11.12" Deep Dura Slope Channel	Gray	1	11.70	92.28	25DS	
DS-112	11.12" to 11.46" Deep Dura Slope Channel	Gray	1	11.97	92.28	25DS	

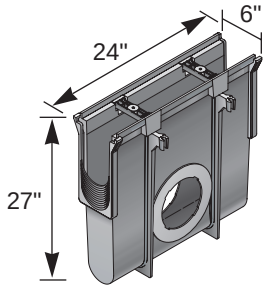
Note: All dimensions are nominal. All weights are for shipping purposes only.

	Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class	Specifications
 ½" x 3 13/16" Grate Opening	660	2 ft. Channel Grate	White	24 ft	2.92	26.12	25PF	NDS #660, #661, #662, #663, #664, #665, 2 ft. Structural Foam Polyolefin secured channel grate with UV inhibitor. Open surface area 20.61 square inches per foot. 27.00 GPM per foot.
	661LG		Gray	24 ft	2.92	26.12	25PF	
	662		Green	24 ft	2.92	26.12	25PF	
	663		Black	24 ft	2.92	26.12	25PF	
	664	(See pg. 51)	Sand	24 ft	2.92	26.12	25PF	
	665		Brick Red	24 ft	2.92	26.12	25PF	
	Use with Dura Channel Drains (page 36), Dura Slope Drains (page 45), Dura Slope Catch Basins (page 47).							
 5/16" x 4 11/16" Grate Opening	DS-231	2 ft. Cast Iron Channel Grate	Black	1	15.00	36.32	25DS	#DS-231 2 ft. Heavy Duty Cast Iron Channel Grate. Open surface area 15.27 square inches per foot. 20.00 GPM per foot. H-20 Load Rating.
	Use with Dura Channel Drains (page 36), Dura Slope Drains (page 45), Dura Slope Catch Basins (page 47).	(See pg. 51)						
 5/16" x 4 11/16" Grate Opening	DS-232	2 ft. Ductile Iron Channel Grate	Black	1	16.00	55.20	25DS	NDS #DS-232, 2 ft. Heavy Duty Ductile Iron Channel Grate. Open surface area 15.27 square inches per foot. 20.00 GPM per foot.
	Use with Dura Channel Drains (page 36), Dura Slope Drains (page 45), Dura Slope Catch Basins (page 47).	(See pg. 51)						
 ¾" x 4 7/16" Grate Opening	DS-221	2 ft. Galvanized Steel Channel Grate	Steel	24 ft	4.00	30.88	25DS	NDS #DS-221, 2 ft. Galvanized Rolled Steel Grate. Open surface area 19.85 square inches per foot. 26.00 GPM per foot.
	Use with Dura Channel Drains (page 36), Dura Slope Drains (page 45), Dura Slope Catch Basins (page 47).	(See pg. 51)						

Note: All dimensions are nominal. All weights are for shipping purposes only.

DURA SLOPE™ CHANNEL DRAINS

Specifications: NDS Dura Slope™ in-line catch basins are a 6-5/8" wide gray structural foam polyethylene catch basin with UV inhibitors. In-line catch basins are designed to provide an optional in-line junction or outlet piping connection location for NDS Dura Slope™ trench drain systems. Each Dura Slope™ Catch Basin Module is 2 feet long and 2 feet deep. The catch basin modules will fit all depth ranges of the Dura Slope™ trench drains. Dura Slope™ in-line catch basins are provided with the pre-installed Pro Fit™ locking system, which maintains structural integrity during shipping and installation, and provides locking devices for the grating. Leve Loc™ integral re-bar supports located along each side of the catch basin contain an internal protruding knob to grip #4 re-bar (1/2") providing height adjustment during installation. Dura Loc™ tongue and groove ends connect allowing for a precise fit and ensure straight channel runs. Dura Loc™ joints incorporate a snap-lock feature that prevents joint movement during channel and basin installation. Basin inlets are to be sized as required to accept mating trench drain by the use of a reciprocating saw during installation eliminating the need for multiple basin configurations. The Dura Slope™ in-line catch basin has an outlet on both sides of the basin. NDS universal basin outlets are used to adapt basin to 3", 4", 6" and 8" pipe. Plugs are also available if one outlet is preferred. All universal outlets are ordered separately (see page 8 for details). For additional catch basin options see pages 15-23.



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
DS-140	Dura Slope™ in-line Catch Basins	Gray	1	12.00	106.00	25DS
	Use #1242, #1243, #1245, #1266, #1206, or #1888 Universal Outlets (page 26).					

DURA-SLOPE™ ACCESSORIES

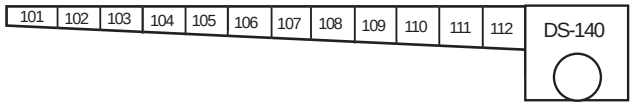
	Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Price	Product Class
	DS-122	Pro Fit™ Grate Lock	Black	8	0.80	7.75	25DS
	DS-123	Universal End Cap Screws Use on DS-124 universal end cap downstream for (male) end.	Gray	12		0.31	25DS
	DS-124	Universal End Cap Slides into upstream (female) end, DS-123 screws for use on downstream (male) end.	Gray	8	0.63	10.98	25DS
	DS-127	Universal End Outlet	Gray	6		12.00	25DS
	DS-126	Bottom Outlet Adapter Fits to 4" S&D Pipe	Gray	6	0.53	24.47	25DS
	629	Grate Screws Use with Grate #DS-231, DS-232, and 660-665.	Gray	40		0.41	25DS

Note: All dimensions are nominal. All weights are for shipping purposes only.

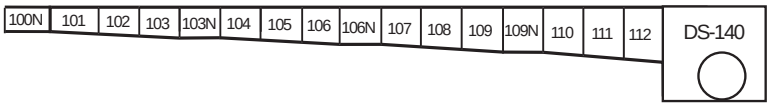
Dura Slope System Profiles

Neutral Run

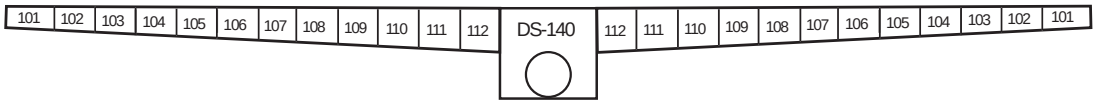
Linear fall without neutrals



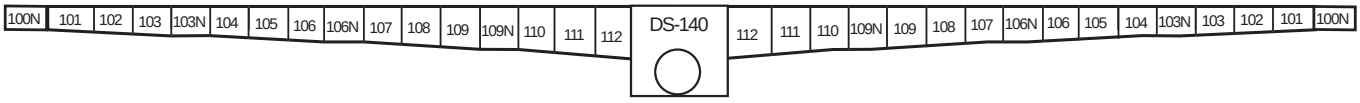
Linear fall with neutrals



Counter Directional Fall without neutrals



Counter Directional Fall with neutrals

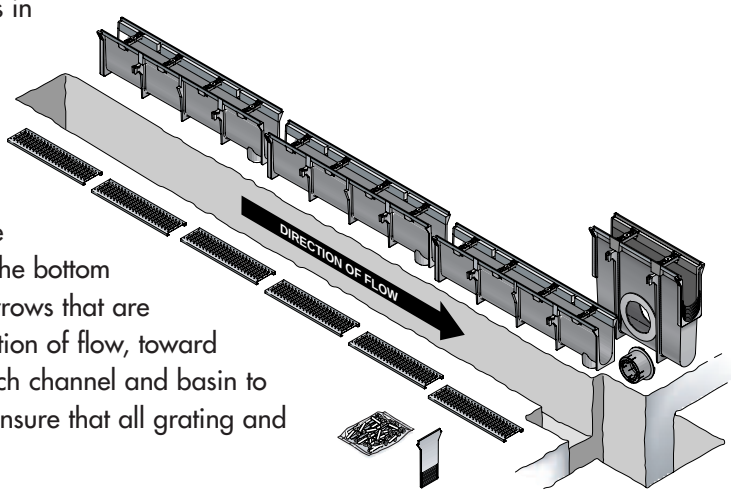


Note: All dimensions are nominal. All weights are for shipping purposes only.

Dura Slope Standard Installation Instructions

Excavation

Excavate a trench that ensures a minimum of 6″ bedding concrete beneath and on both sides of the NDS Dura Slope™ channel. As a guide for installing the channel to desired level, erect a temporary string line at each end of the trench. Slope the edges of the excavation to follow the slope of the channels in order to provide a smoother transition to the slab sub-grade.



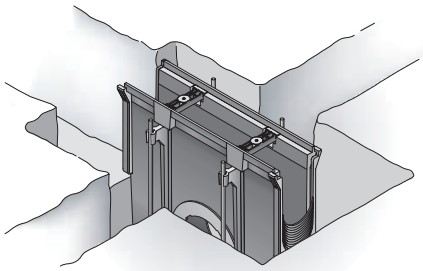
Layout / Preparation

Place channels alongside the excavation to desired layout. Each channel has a number that identifies its location in the system. The deepest channel should be at the end of the system where evacuation of water is planned, either through the bottom outlet or into a catch basin. Ensure that the directional flow arrows that are located on the bottom of the channel are pointing in the direction of flow, toward either the catch basin and/or the evacuation outlet. Check each channel and basin to ensure that all Pro Fit™ locking supports are in the channel. Ensure that all grating and screws necessary are laid out and ready when needed.

If using an in-line catch basin ensure that appropriate outlet adapters have been selected and inlet panels have been removed with a reciprocating saw to best fit the depth of the mating channel.

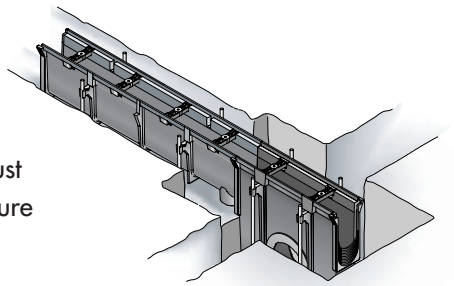
If evacuating from a bottom outlet, remove the cutout with reciprocating saw. Also make sure to have the Sure Fit™ bottom outlet fitting, pipe, fittings and an extra end cap for the downstream end of the system. Ensure that all screws, grates, pipe, fittings, silicon caulking, and other tools or materials needed are present.

Installation



In-line Catch Basin

Begin installation with a prepared catch basin, as mentioned above. Ensure that basin is at desired elevation and location to the trench drain system. Align #4 re-bar (1/2″) with the Leve Loc™ integral re-bar supports of the basin and drive them into the ground for positive anchoring. Permanently secure Leve Loc™ to re-bar with wire ties.

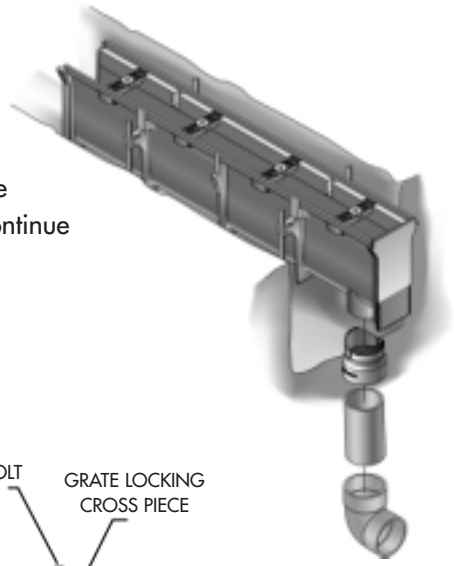


Channel

Attach channel directly to in-line basin, ensuring that the channel and basin Dura Loc™ joints are aligned. Silicon caulking may be used at each joint as a sealer. Slide the Dura Loc™ joints of the channel and the basin together taking care that they positively lock. Align #4 re-bar (1/2″) with the Leve Loc™ integral re-bar supports of the channel and drive them into the ground for positive anchoring. Re-adjust channel using string line or level to ensure channel is at desired level. Permanently secure Leve Loc™ to re-bar with wire ties. Continue with the next channel section.

Note: All dimensions are nominal. All weights are for shipping purposes only.

Dura Slope Standard Installation Instructions

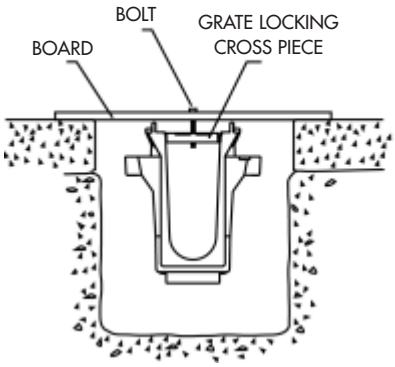


Bottom Outlet Option

Secure the NDS outlet adapter into the channel bottom outlet. Ensure that the channel Sure Fit™ adapter is sized and aligned properly to the outlet pipe. Attach Sure Fit™ to evacuation pipe and re-adjust channel using string line or level to ensure channel is at desired level. Permanently secure Leve Loc™ to re-bar with wire ties. Continue with the next channel section.

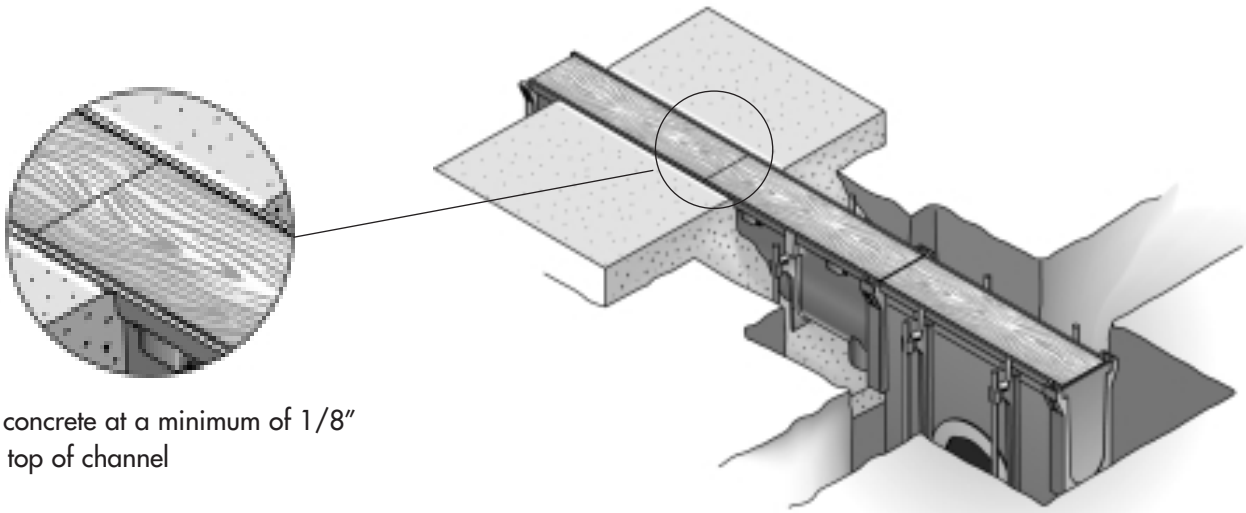
Suspended Installation

Attach a wooden brace to the channel that overlaps both sides of the trench. The wood brace is secured to the locking system in the channel and to the concrete on both sides of the trench. This method prevents the channel from floating and keeps the system to desired grade. Dimensions of trench depend on the specific application desired. See installation details on next page for specific dimensions.



Pour

Install plywood with the same dimensions of the grates, or install the actual grates, carefully duct-taping over them in order to prevent channel sides from compressing inward and eliminating the possibility of concrete being poured into the channel. Cut back re-bar to ensure it will not appear above the concrete pour level. Pour 3500psi concrete around the channel system. In order to prevent air pockets from developing, vibrate the concrete as it is placed. Once finished, trowel concrete to be finished at a minimum of 1/8″ above the top of the channel and basin to ensure adequate channel edge protection and allow for efficient drainage.



Finish concrete at a minimum of 1/8″ above top of channel

Note: All dimensions are nominal. All weights are for shipping purposes only.

For customer service, please send your fax to: 1-800-726-1998 or call 1-800-726-1994.

Load Recommendation Guide

Class A
- Loads of 1-60 psi.
- Recommended for pedestrians, bicycles and wheel chair traffic.

Class B
- Loads of 61-175 psi.
- Recommended for medium-duty pneumatic tire traffic, autos and light trucks at speeds less than 20 m.p.h.

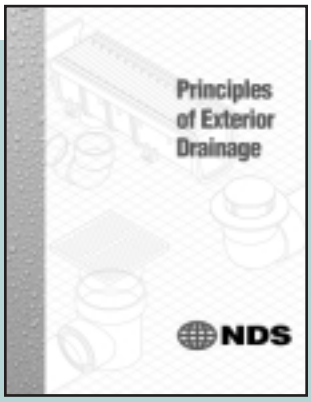
Class C
- Loads of 176-325 psi.
- Recommended for heavy-duty pneumatic tire forklifts and tractor trailers at speeds less than 20 m.p.h., H-20 rated.

Class D
- Loads of 326-575 psi.
- Recommended for heavy-duty hard tire forklifts at speeds less than 20 m.p.h., H-20 rated.

Note: Some installations may require a concrete collar to meet load rating. Loads are based on encasing product in concrete. Product must be installed using NDS instructions.

MARKETING MATERIALS

NDS provides top of the line marketing materials to promote all of our product lines. From effective point of sale materials, to smart, informational catalogs and manuals, you will find what you are looking for to help support your marketing efforts.



Principles of Exterior Drainage
Available in 2 versions: Short Course and Wholesale Quick Review. These books are exterior drainage guidelines to further the knowledge and professionalism of individuals involved in drainage projects. They contain vital information for designing a complete drainage system.

www.NDSPRO.com
From installation details to online catalogs to educational materials, NDSPRO.com is your one source for all information needed in order to use and specify NDS products.

Counter Pad
A counter pad displaying the range of products available from NDS, including a brief description. Size is 16″x20″.

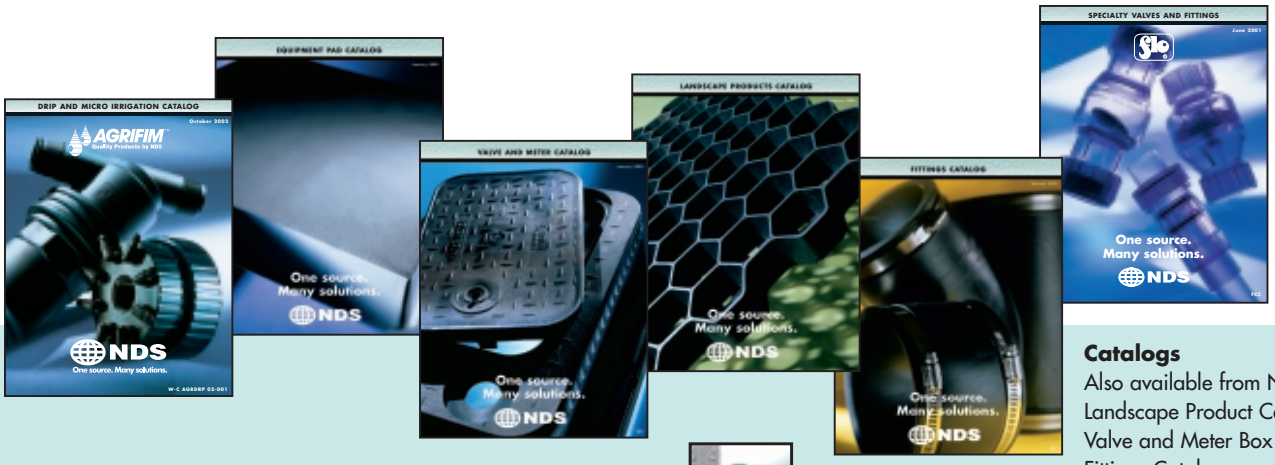
Banner
A two color banner with 4 eyelets.
Size is 23″ x 45″

Specification Binder
Binder containing the Drainage Catalog, Landscape Catalog, Valve and Meter Box Catalog, NDS Price List, and Technical Manuals. Distributed to architects and engineers.

Drainage Calculator
A vital tool in determining which NDS products should be used for the soil type and average rainfall in any given geographical area.

Note: All dimensions are nominal. All weights are for shipping purposes only.

For customer service, please send your fax to: 1-800-726-1998 or call 1-800-726-1994.

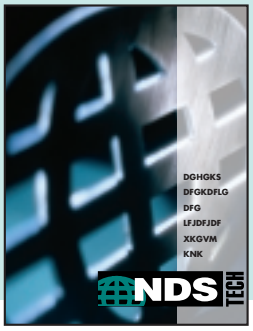


Catalogs
Also available from NDS:
Landscape Product Catalog,
Valve and Meter Box Catalog,
Fittings Catalog,
Equipment Pad Catalog,
Drip & Micro Irrigation Catalog,
Specialty Valves and Fittings Catalog

Installation Guide and Holder
Tri-fold pamphlets that contain helpful hints and installation instructions for NDS basins and grates and channel drains. A convenient holder is available to make the guides available to your customers immediately adjacent to the product.

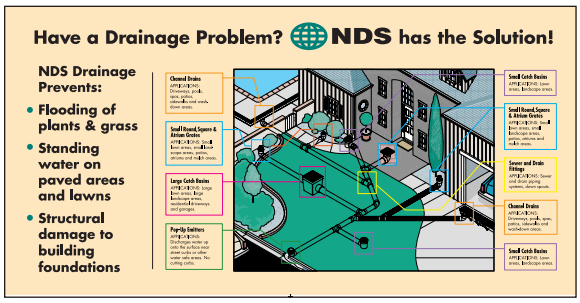
Pop-Up Emitter Display
An installation display featuring the patented NDS Pop-Up Drainage Emitter and some strong selling points. Size is 12 1/4 x 11.

Channel Display
Convenient display showing the ProSeries, Spee-D, Mini, Micro channel and some strong selling points. Includes a holder for NDS Installation Guides. Size is 20″ L x 9″ D x 4″ H.



NDSpec
An autocad database of installation details. This CD creates a database of installation drawings accessible by autocad.

Basin Display
An installation display showing a simulated drainage system design with actual product. Size is 24″x48″.



Product Header
A full color header representing a range of NDS products and applications, as well as information on the most common applications. Size is 24″ x 48″.

TERMS AND CONDITIONS OF SALE

Terms of Payment: Standard terms are 2%, 10 days, NET 30. A 1 1/2% per month (18% per annum) service charge will be added to all past due accounts. All invoices are to be paid in US Currency.

Freight Allowance: CA, AZ, and NV: Freight prepaid on orders of $650.00 NET or more. Freight prepaid on orders containing only equipment pads of $1500.00 NET or more. Freight prepaid on flexible couplings only orders of 126 pieces or more. Custom DuraCast only orders freight prepaid on orders of $2500.00 NET or more.

All other states: Freight prepaid on orders of $1000.00 NET or more. Freight prepaid on orders containing only equipment pads of $1500.00 NET or more. Freight prepaid on orders containing only Flo Control Products of $700.00 NET or more. Freight prepaid on flexible couplings only orders of 126 pieces or more. Custom DuraCast only orders freight prepaid on orders of $2500.00 NET or more. Custom orders may require a higher prepaid freight level. Prepaid freight levels are based on shipments to one location only. It is the responsibility of the customer to determine if his purchase order meets the minimum freight allowance required. NDS reserves the right to select the carrier and point of shipment.

Canadian Orders: Freight prepaid on orders of $1,500.00 (US$) NET or more. Custom DuraCast only orders freight prepaid on orders of $2500.00 (US$) NET or more.

Errors & Claims: All claims for shortage in shipment or damaged material must be noted on the "Bill of Lading" and a written request for credit submitted to NDS within 15 days of shipment. NDS responsibility ceases upon delivery to the carrier.

Returned Goods: Returned goods will be accepted only after written approval and shipping instructions are received from NDS. A return goods authorization number is required and must be on all cartons, documents, and correspondence. All returns are subject to a 15% restocking charge, freight cost of returned goods (plus "out freight if applicable"). A higher restocking charge may be assessed against any return requiring extraordinary handling costs.

Minimum Order: $50.00 minimum order net billing. A 15% broken box charge will be added for other than full box quantities.

Limited One Year Warranty: The liabilities of NDS are limited solely and exclusively to replacement as set forth in our standard "Statement of Warranty", alone and do not include any liability for incidental, consequential or other damage of any kind whatsoever, whether any claim is based upon theories of contract, warranty, negligence or tort and without any limitations and do not include shipping charges, labor, installation or any other losses or expenses incurred in operation of any replacement specialty item or fitting. NDS drainage products are designed to be used for exterior surface drainage only.

Limited Lifetime Warranty: NDS warrants to the original owner of its NDS catch basins, grates, channel and Pro Series valve boxes, subject to the conditions set forth in this warranty, that NDS catch basins, grates, channel and Pro Series valve boxes will remain free from manufacturing defects.

All NDS products are guaranteed against defects resulting from faulty workmanship or materials. Claims for labor costs and other expenses required to replace defective products or repair of any damage resulting from the use thereof will not be allowed by NDS. Our liability is limited to replacement of products acknowledged by NDS to be defective.

Exclusive Warranties and Remedies: The FOREGOING REMEDIES ARE EXCLUSIVE AND ARE GIVEN AND ACCEPTED IN LIEU OF (I) ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE; AND (II) ANY OBLIGATION, LIABILITY, RIGHT, CLAIM OR REMEDY IN CONTRACT OR TORT, WHETHER OR NOT ARISING FROM NDS, INC.'S NEGLIGENCE, ACTUAL OR IMPUTED. The remedies of customer shall be limited to those provided herein to the exclusion of any and all other remedies including, without limitation, incidental or consequential damages. No agreement varying or extending the foregoing warranties or these limitations will be binding on NDS, Inc., unless such is signed in writing by an authorized officer of NDS, Inc.

The liability of NDS, Inc., hereunder shall be limited to restoring to good working order, provided that NDS, Inc., is not required to restore the product to good working order when such failure is due to causes beyond NDS, Inc.'s control, including but not limited to, acts of God, acts of civil or military authority, priorities, strikes, floods, epidemics, war, riots, and other causes that are beyond the manufacturers control.

These provisions are complete and exclusive statements of all terms and conditions between NDS, Inc., and the consumer. These provisions may not be varied, supplemented, qualified or interpreted by any prior course of dealings, written or oral or by trade usage. No NDS, Inc. agent, officer or employee has authority to make any representation, promise or warranty concerning these provisions.

NDS

One source. Many solutions.

- **Catch Basins & Grates**
- **Channel Drains**
- **Agrifim Drip Irrigation**
- **Equipment Pads**
- **Flo-well Stormwater Leaching Systems**
- **Flo Control Specialty Fittings**
- **Flo Control Check Valves**
- **Flo Control Ball Valves**
- **Backwater & Diverter Valves**
- **Sewer & Drain Fittings**
- **Grass Pavers**
- **Root Barriers**
- **Valve & Meter Boxes**
- **Flexible Couplings**
- **Flexible Saddles**

NDS Product Catalogs

Drainage Catalog • Drip & Micro Irrigation Product Catalog • Equipment Pad Catalog • Fittings Catalog
Landscape Product Catalog • Specialty Valves and Fittings Catalog • Valve and Meter Box Catalog

PARTIAL CLIENT LIST

The White House
Los Angeles Country Club
Pebble Beach
Cypress Point
Spyglass Hill
PGA West Stadium Golf Course
Princeville Golf Course
Ritz Carlton
Santa Barbara Zoo

Sheraton Hotels
Sherwood Country Club
Soldier Field
Del Webb & Sun City Country Clubs
Westin Hotels
Riviera Country Club
Buchart Gardens
Disney World
Disneyland

Florida University
Harbortown Golf Links
Hyatt Grand Champions
La Quinta Resort
Marriott Hotels
MGM Grand Hotel & Theme Park
Mirage Hotel
Jack La Lane Athletic Clubs
Olympic Training Center

Address/Telephone
P.O. Box 339 • 851 N. Harvard Avenue
Lindsay, CA 93247
Phone: 800-726-1994
Fax: 800-726-1998
International Phone: 559-562-9888
International Fax: 559-562-4488
e-mail: NDS@NDSPRO.com

www.NDSPRO.com

Regional Warehouses:
- Lindsay, CA
- Dallas, TX
- Atlanta, GA
- Seattle, WA
- Philadelphia, PA
- Chicago, IL
- Orlando, FL
- Puerto Rico