

D&L

**Foundry
& Supply**



Construction Castings, Gratings, and Fabrication

California

Phone:

(707) 557-4525

Fax:

(707) 557-4655

Utah

Phone:

(801) 785-5015

Fax:

(801) 785-0835

Washington

Phone:

(509) 765-7952

Fax:

(509) 765-8124

www.dlfoundry.us

Fifth Edition

3/04



We are pleased to present the 5th edition of the D&L Foundry and Supply catalog. This edition includes over 400 entries, each with accurate orthographic and perspective representations for choice and identification. This is a large and comprehensive collection of construction castings. Many new items have been added, including standard castings from the Northwest, airport castings, and steel fabrications.

D&L castings are produced in a state-of-the-art facility located in Moses Lake, Washington. Producing over 120 tons of castings a day, customers get responsive and coordinated service. In addition, D&L is experienced in fabrication of steel items. Whether you need iron castings or steel fabrication, D&L customers know the best production, sales, engineering, and delivery staff in the West will be on their team.

This CD edition catalog includes most, but not all of the castings and fabrications available from D&L Foundry and Supply. We encourage your inquiries concerning variations such as unlisted lid configurations, custom lids, custom steel fabrications, and special casting items.

The D&L team, now over one hundred eighty strong, is qualified to serve all of your construction casting and fabrication needs.



Call or fax us with your questions or order:

California Sales
Phone: (707) 557-4525
Fax: (707) 557-4655

Utah Sales
Phone: (801) 785-5015
Fax: (801) 785-0835

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Phone: (509) 765-7952
Fax: (509) 765-8124

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Specifications

Note: If you are writing a new specification or updating an old one, please review the following data. Sample specifications are available for your perusal upon request.

Standard Information:

Castings shall be manufactured by D&L Foundry, or an approved equal. Castings shall be smooth and cleaned by shot-blasting. They shall be of uniform quality, free from blow holes, distortion, or any other defects. All tolerances are accepted foundry standards as specified in the Iron Castings Handbook published by the American Cast Metals Institute.

Material Quality:

All metal used in D&L castings shall conform to ASTM-48-93 Class 35B for gray iron and to the ASTM A-536-84 Grade 80-55-06 for ductile iron. Castings shall also meet Federal Specification A-A60005 (formerly RR-F-621E)

Finish of Products:

All rings and covers that are round will have machined surfaces that insure a no-rock and non-rattle fit. All components must fit and satisfactorily and be true to the pattern from which they are made.

Tolerances:

Dimensions may vary in the casting due to shrinkage, no more than +/- 1/16 inch per foot.

Green Sand Molding:

All D&L Foundry castings are cast using green sand molding. See page 3 for more information.

Paint:

All D&L Foundry castings are shipped unpainted unless otherwise stated on the order or published in the specification. See below for more information.

Weight of Castings:

All weights published are averages and are approximate in their values. Weights shall not reflect any differences beyond the +/- 5 percent of the weights shown in the drawing.

Submittal Drawings:

D&L Foundry will provide shop drawings upon request for submittal to engineers for approval. The engineer will always have the right to reject any casting that does not conform to this specification. If the D&L standard design has been altered and a new shop drawing has been submitted, the same rights will be in effect for the Engineer.

Uncoated Casting Policy

Painting or coating of construction castings will no longer be the standard procedure at D&L. Unless otherwise specified on the order, castings will not be coated. This is due to the following:

1. Unlike galvanized steel, cast iron does not require special processing to achieve high corrosion resistance. Greater concentrations of carbon and silicon make it naturally long-lasting.
2. Graphite flakes in cast iron also protect it against corrosion.
3. Traditionally the painting of castings has been preferred

for cosmetic reasons, not due to any protective value.

4. The painting of castings creates a barrier between the gray iron and the concrete or material surrounding the casting. These materials will not bond as they should. In its natural state gray iron and the materials used will bond and have a much longer life than those that have been dipped or painted.

5. The U.S. Environmental Protection Agency has determined Volatile Organic Compounds (VOC) present in bituminous asphalt Paints and coatings are harmful to the environment.

Ductile Iron

Many D&L castings are available in Ductile Iron. Stronger than Gray Iron or structural carbon steel, Ductile Iron is more suitable for unusual situations such as in extreme cold or heat and for stresses greater than H20 loadings, this includes airports, forklift traffic, extra-heavy freeway traffic

and container ports. Also, using a Gray Iron frame in combination with a Ductile Iron lid is suitable for many sites.

Please call and consult with our staff for recommendations when considering Ductile Iron in a specific application.



Green Sand Molding and Draft in Castings

Casting gray iron is done at D&L Foundry using the centuries-old Green Sand Method. Olivene or silica sand is shaped into molds into which molten gray iron is poured. Two molds together form the mold for each casting: the top part, the "cope," contains the lighter portion of the casting, and the bottom, the "drag," the heavier. Each vertical portion of a casting will necessarily be angled slightly to enable the casting's smooth release from the two halves of the sand mold. This "draft," or slight angle, though always present in

actual castings, is commonly not represented either visually or dimensionally in technical drawings for manhole covers, for simplification.

Hence, though the drawings in this catalog may show a vertical wall for a given casting, the actual thickness will not be uniform from top to bottom, but will flare slightly as described. This discrepancy is common for iron casting and should not be used as a basis for casting rejection.

Load Capacities

In accordance with U.S. Government requirements, D&L Supply conforms to Federal Specification A-A60005 in the testing of our products. As specified, a certain load is placed on a 9" x 9" area on the given casting, which is then inspected for cracks, defects, or buckling.

We use the 400,000 lb. Tinus-Olsen Universal Tensile/Compression Unit, or the Riehle Model FS-120 in performing all our tests.

Load Rating

Many of the castings featured in the catalog are capable of sustaining single axle trucks (H20-44 wheel loading) or tandem axle trucks (HS20-44 wheel loading,) both of which support 32,000 lbs. per axle, or 16,000 lbs. per set of dual wheels.

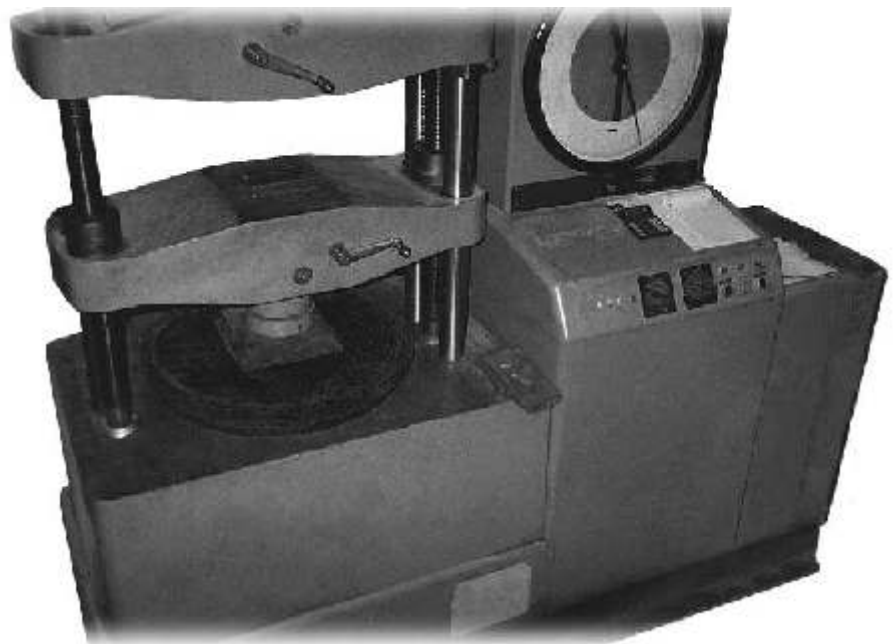
D&L products herein are assigned a load capacity rating of :

Heavy Duty Airport: for those which sustain loads of 150,000 to 300,000 lbs,

Heavy Duty: for those which sustain standard highway loads and H20 loads to 16,000 lbs. and above, or

Light Duty: for loads smaller than 2,000 lbs.

Feel free to call our specialists with any questions regarding load requirements for your project.



Lid Styles

D&L Supply offers a wide range of lid styles. The drawings throughout the catalog show the only more popular combinations. Your inquiry regarding any style on any ring or frame, or custom designs is welcome.

Below are the more common lid types.



Cross-hatch



Raised Lugs



Buttons



Sand Finish



Recessed Lugs



Skid-Resist surface



Raised Ring

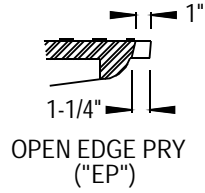
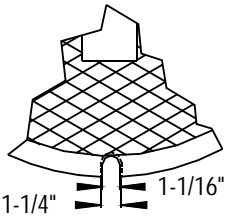


Raised Diamond

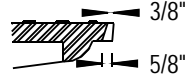
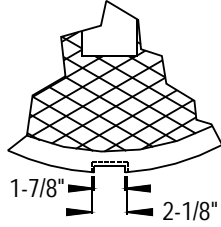


Spiral

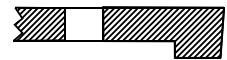
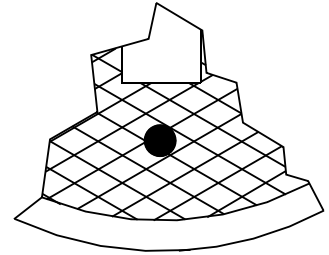
Manhole Cover Pick Devices



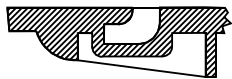
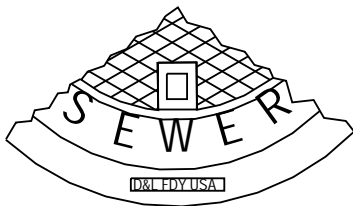
OPEN EDGE PRY
("EP")



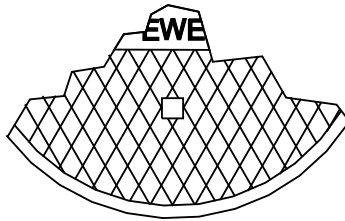
CONCEALED EDGE PRY
("AURORA PICK HOLE")
("APH")



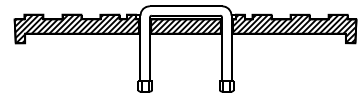
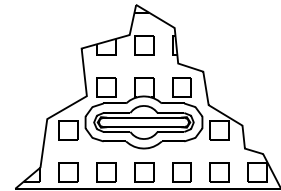
LIFT HOLE
("H")



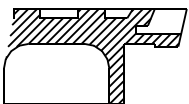
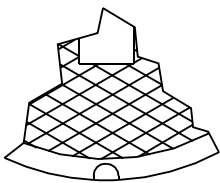
CLOSED PICK HOLE
("CPH")



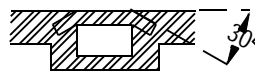
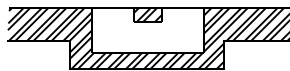
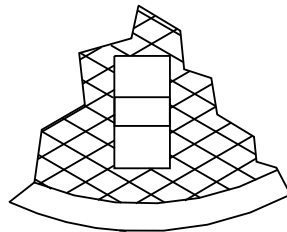
BLIND PICK HOLE
("BPH")



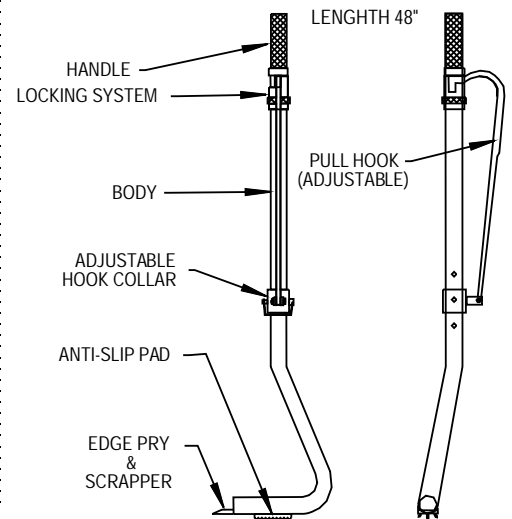
LIFT HANDLE
("LH")



CONCEALED EDGE PRY
("CEP")



LIFT SOCKET
("LS")



N-1000 by PROTOLIFT

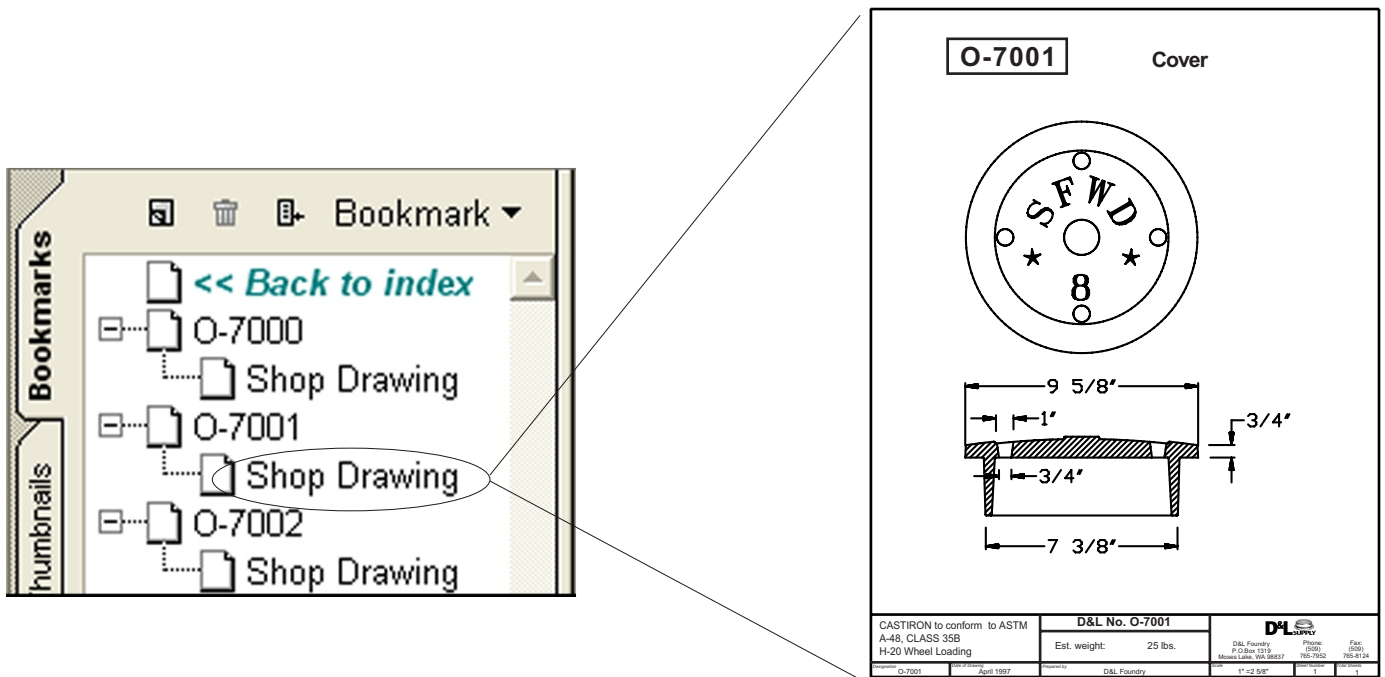
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Shop Drawings

Detailed shop drawings for D&L products can be found in each of the catalog sections just below each product number.



Simply click on the appropriate "Shop Drawing" bookmark to view the corresponding detailed drawing.