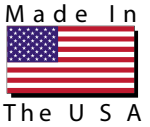




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SERIES 1100SD

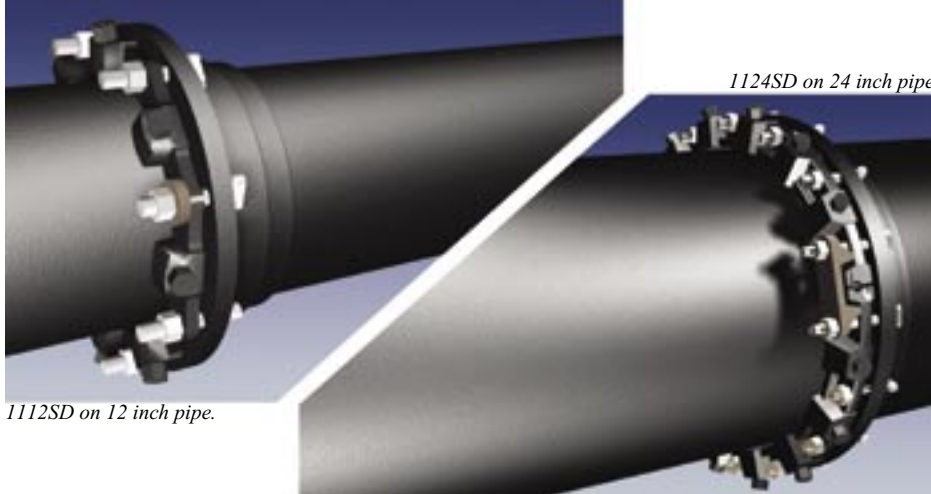
Restraint for Existing Mechanical Joints on Ductile Iron Pipe



U.S. Patent Nos. 4092036, 4779900, 4627774, 4896903

Features and Application:

- For use on Ductile Iron Pipe at Mechanical Joints.
- Minimum 2 to 1 Safety Factor.
- Split design for ease of installation.
- Constructed of ASTM A536, 65-45-12 Ductile Iron.
- For **mid span** restraint accommodation, please refer to Series 1100SDB
- For use on water or wastewater pipelines subject to hydrostatic pressure and tested in accordance with either AWWA C600 or ASTM D2774.

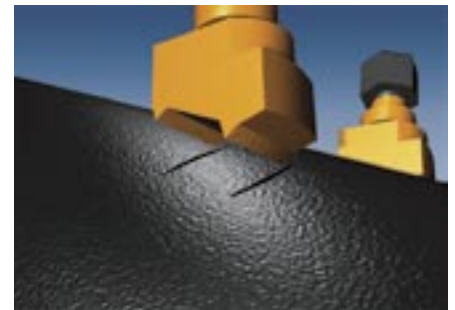


1112SD on 12 inch pipe.

1124SD on 24 inch pipe.

Nominal Pipe Size	Series Number	Approximate Shipping Weight	Pressure Ratings (PSI)
			Ductile Iron
3	1103SD	9.50	350
4	1104SD	12.50	350
6	1106SD	18.60	350
8	1108SD	23.30	350
10	1110SD	32.70	300
12	1112SD	42.50	300
14	1114SD	71.10	300
16	1116SD	81.30	300
18	1118SD	85.90	200
20	1120SD	101.00	200
24	1124SD	153.70	200
30	1130SD	251.20	200
36	1136SD	314.10	200
42	1142SD	478.00	175
48	1148SD	633.32	175

Note: For applications or pressures other than those shown, please contact EBAA for assistance.



Wedge impression on pipe.

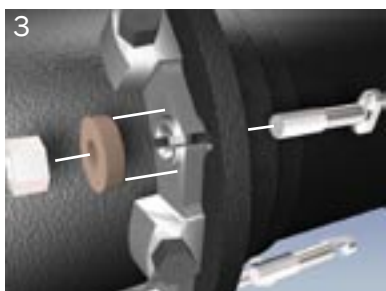
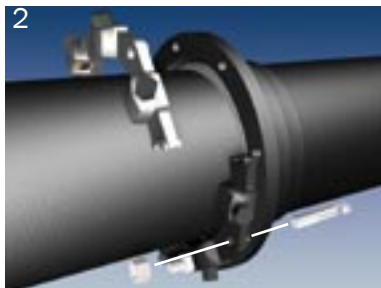
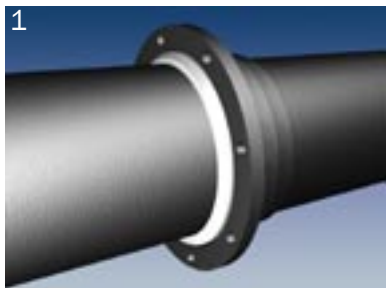
Sample Specification

Restraint for existing mechanical joints found on ductile iron pipes shall consist of the following: The restraint shall be manufactured of ductile iron conforming to ASTM A536. The split restraint ring, incorporating a plurality of individually - actuating gripping surfaces, shall be used to grip the pipe and a sufficient number of bolts shall be used to connect the restraint to the mechanical joint. The combination shall have a minimum working pressure rating as shown in the adjacent table. The restraint shall be the Series 1100SD as manufactured by EBAA Iron, Inc. or approved equal.

Packaged items.



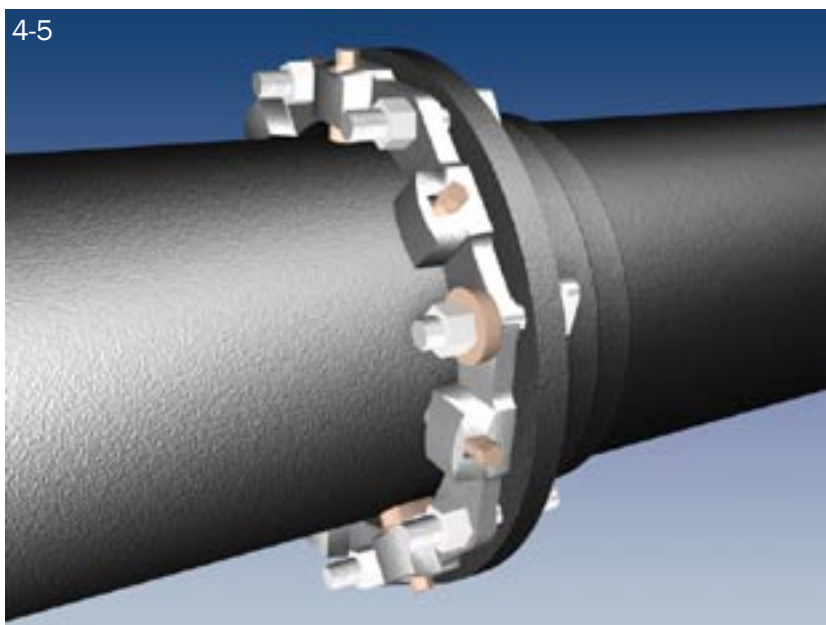
Installation Instructions for Series 1100SD



3-12 inch



14-48 inch



The EBA Iron Series 1100SD is designed for restraining existing mechanical joint pipe or fittings. (This product is not intended for use as a restraining anchor in the mid span of a pipe. Refer to Series 1100SDB.)

1. **Clean and clear the existing joint.** Replace the existing gasket with a field cut gasket if necessary. **Lubrication and additional cleaning should be provided** by brushing both the gasket and the plain end with soapy water or an approved pipe lubricant meeting the requirements of ANSI.AWWA C111/A21.11.
2. Remove the clamps from the split gland. **Loosely assemble the halves on the pipe** by install the t-bolts hand tight everywhere except at each split.
3. **Assemble each clamp so that the angled surfaces** of the clamp mate with the angled surfaces on each side of the split. Insert the long t-bolts (provided) through the clamps and tighten hand tight.
4. Tighten the t-bolts. **Tighten the bolts to the normal range of bolt torque [45-60 ft-lbs for 3", 75-90 ft-lbs for 4" through 24", 100-120 ft-lbs 30" through 36", and 120-150 ft-lbs for 42" and 48"]** while at all times maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This can be accomplished by partially tightening the bottom bolt first, then the top, next bolts at either side, finally the remaining bolts. Repeat the process until all bolts are within the appropriate range of torque. The use of a torque indicating wrench will facilitate this procedure.
5. **Tighten the torque limiting twist off nuts in a clockwise direction** (direction indicated by arrow on top of nut) until all wedges are in firm contact with the pipe surface. Continue tightening in an alternate manner until all of the nuts have twisted off.
6. If reassembly is required, assemble the joint in the same manner as above, tighten the wedge bolt to 90 ft-lbs.



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For Submittal Reference Information
please refer to the Series 1100