MEGALUG® SERIES 1100
Mechanical Joint Restraint for Ductile Iron Pipe

SAMPLE SPECIFICATION

Mechanical joint restraint shall be incorporated into the design of the follower gland. The restraining mechanism shall consist of individually actuated wedges that increase their resistance to pull-out as pressure or external forces increase. The device shall be capable of full mechanical joint deflection during assembly and the flexibility of the joint shall be maintained after burial. The joint restraint ring and its wedging components shall be made of grade 60-42-10 ductile iron conforming to ASTM A536-84. The wedges shall be ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell conforming to ANSI/AWWA C111/A21.11 and ANSI/AWWA C153/A21.53 of the latest revision. Torque limiting twist-off nuts shall be used to insure proper actuation of the restraining wedges. The mechanical joint restraint shall be available in the three through forty-eight inch sizes. They shall have a rated working pressures of 350 psi in sizes sixteen inch and smaller and 250 psi in sizes eighteen inch through forty-eight inch. The devices shall be Listed by Underwriters Laboratories up through the twenty-four inch size and Approved by Factory Mutual up through the twelve inch size. The restraint shall be the Series 1100 MEGALUG® restraint as produced by EBAA Iron, Inc. or approved equal.

BRIEF SPECIFICATIONS FOR 1100 SERIES

NOMINAL PIPE SIZE	SERIES NUMBER	APPROX. SHIPPING WT. (LBS.)	RATED PRESSURE 2:1
3	1103	6.1	350
4	1104	7.2	350
6	1106	12.0	350
8	1108	16.0	350
10	1110	24.9	350
12	1112	32.7	350
14	1114	49.7	350
16	1116	58.2	350
18	1118	62.2	250
20	1120	74.8	250
24	1124	138.8	250
30	1130	195.4	250
36	1136	256.5	250
42	1142	510.2	250
48	1148	712.0	250

- For test pressures above the rated pressures shown, consult the engineering department of EBAA Iron, Inc., for recommendations. EBAA Seal gaskets are provided with the 30" through 48" **MEGALUG** restraints. Also provided with the 42" and 48" sizes are extra length T-bolts. The gaskets and bolts are provided to facilitate easier assembly of the mechanical joint and are required on the above referenced sizes to obtain the pressure ratings and safety factors shown.
- For projects using large diameter restraints, please contact this office for our design recommendations.

- All of the Megalug components are made of ductile iron. The wedges are heat treated to a hardness range of 370 to 470 BHN. The product is coated with the same asphaltic coating specified for the pipe and fittings.

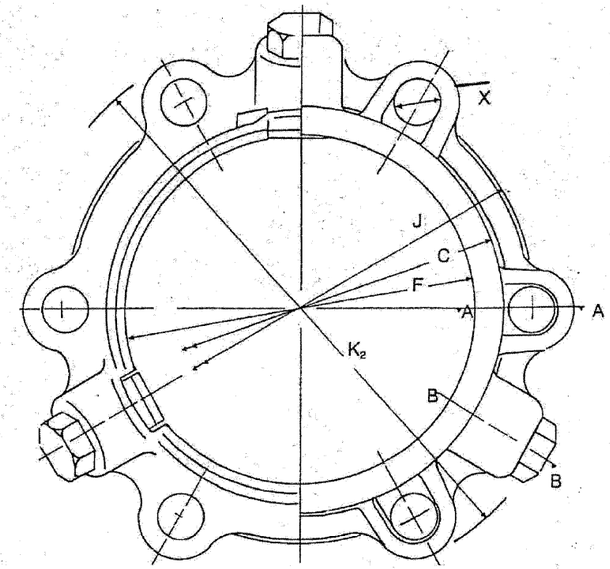
- The 1100 Series is intended for use on ductile iron pipe. The restraint can be used on grey iron pipe if the pipe is not severely corroded and is in sound condition and has an outside diameter that can be accommodated. For more information on the use of the MEGALUG restraint on grey iron pipe ask for Connections™ Bulletin number DI-1.

- **The 1100 series should not be used on plain end fittings.**

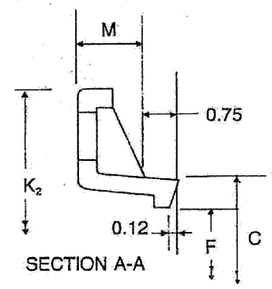
- If you experience the need to install the 1100 series in an unconventional manner please consult EBAA Iron for recommendations.

- **LISTINGS AND APPROVALS FOR SERIES 1100 MEGALUG**

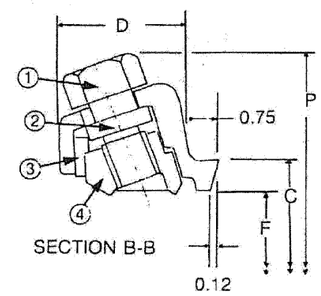
Sizes 3" through 24" are listed by Underwriters Laboratories, Inc., category HJKF "Fittings, Retainer Type," with a deflection angle of five degrees (3" through 12") and two and a half degrees (14" through 24"). The listing file number is EX2836. Sizes 3" through 12" are Factory Mutual approved.



REAR VIEW FRONT VIEW



SECTION A-A



SECTION B-B

① NUT ③ SPACER
② SHOULDER BOLT ④ WEDGE

SERIES	C	D	F	J	M	X	NO. OF WEDGES	NO. OF BOLTS	P	P W/NUTS TWISTED OFF	K_2
1103	4.84	2.27	4.06	6.19	0.62	3/8	2	4	9.36	9.06	7.69
1104	5.92	2.27	4.90	7.50	0.75	3/8	2	4	10.20	9.90	9.12
1106	8.02	2.27	7.00	9.50	0.88	3/8	3	6	12.30	12.00	11.12
1108	10.17	2.31	9.15	11.75	1.00	3/8	4	6	14.45	14.15	13.37
1110	12.22	2.37	11.20	14.00	1.00	3/8	6	8	16.50	16.20	15.62
1112	14.32	2.37	13.30	16.25	1.25	3/8	8	8	18.60	18.30	17.88
1114	16.40	2.69	15.44	18.75	1.50	3/8	10	10	20.64	20.94	20.25
1116	18.50	2.69	17.54	21.00	1.56	3/8	12	12	22.60	22.90	22.50
1118	20.60	2.69	19.64	23.25	1.63	3/8	12	12	24.70	25.00	24.75
1120	22.70	2.69	21.74	25.50	1.69	3/8	14	14	26.80	27.10	27.00
1124	26.90	3.20	25.94	30.00	1.81	3/8	16	16	32.94	32.64	31.50
1130	33.29	3.20	32.17	36.88	2.25	1 1/8	20	20	39.17	38.87	39.12
1136	39.59	3.20	38.47	43.75	2.25	1 1/8	24	24	45.47	45.17	46.00
1142	45.79	4.56	44.67	50.62	3.88	1 3/8	28	28	55.87	55.57	53.48
1148	52.09	4.56	50.97	57.50	3.88	1 3/8	32	32	62.17	61.87	60.36

EBAA IRON SALES, INC.
P.O. Box 857
Eastland, Texas 76448 USA
CALL TOLL FREE 800-433-1716
Phone: 254/629-1731
Telefax: 254-629-8931
ebaa@eastland.net
http://www.ebaa.com

FILE NAME = g:\ch07\0061\road\sheets\D160D12-SHT-WM-STD.dgn	USER NAME = BAW:tort	DESIGNED - CRH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WATER MAIN DETAILS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		DATE - 07/24/2009	REVISED -		SCALE: NONE SHEET NO. 128 OF 362 SHEETS	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		