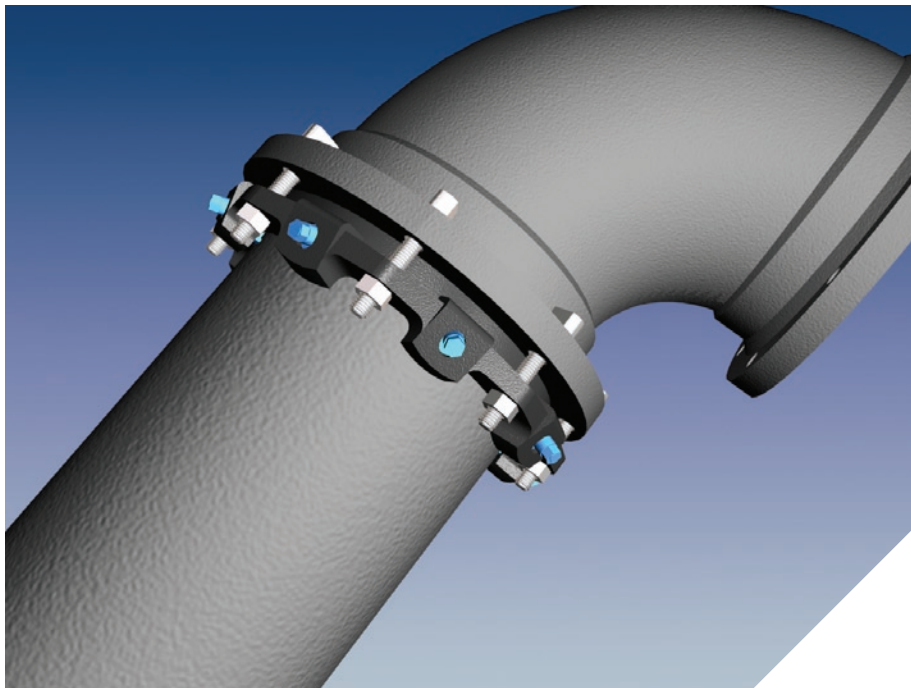


MEGALUG SERIES 1100

Mechanical Joint Restraint
For Ductile Iron Pipe

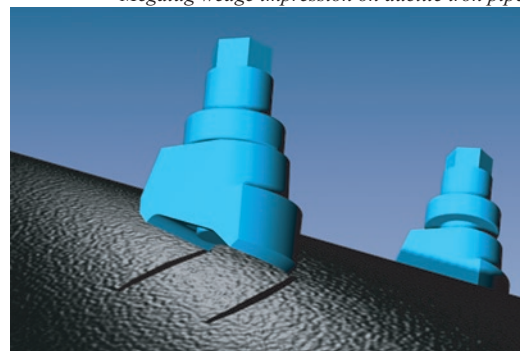


Series 1112, for 12" Mechanical Joint Restraint of Pipe or Fittings.

Features and Application:

- Sizes 3" through 48"
- Constructed of ASTM A536 Ductile Iron
- Torque limiting Twist-Off Nuts
- **MEGA-BOND™** Restraint Coating System
For more information on MEGA-BOND, refer to www.ebaa.com/products/mega-bond
- The Mechanical Joint follower gland is incorporated into the restraint.
- Heavy Duty thick wall design
- Support Products Available:
 - Split repair style available 3 inch through 48 inch.
EBAA Series 1100SD
 - Solid restraint harness available for push-on pipe bells.
EBAA Series 1700
 - Split restraint harness available for existing push-on bells
EBAA Series 1100HD
- All MEGALUG and related restraint products can be furnished as packaged accessories complete with appropriate restraint, gasket, lubrication and bolting hardware.
- For use on water or wastewater pipelines subject to hydrostatic pressure and tested in accordance with either AWWA C600 or ASTM D2774.

Megalug wedge impression on ductile iron pipe.



Nominal Pipe Size	Series Number	Shipping Weights	Deflection (Degrees)	Pressure Rating (PSI)
3	1103	6.1	3°	350
4	1104	7.7	3°	350
6	1106	119	3°	350
8	1108	14.8	3°	350
10	1110	23.9	3°	350
12	1112	31.2	3°	350
14	1114	48.5	2°	350
16	1116	56.4	2°	350
18	1118	63.1	1½°	250
20	1120	72.3	1½°	250
24	1124	133.1	1½°	250
30	1130	194.6	1°	250
36	1136	234.0	1°	250
42	1142	536.0	1°	250
48	1148	653.0	1°	250

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

Mechanical Joint Restraint Sample Specification

(The text of the specifications below can be copied and pasted from www.ebaa.com/download/1100Spec.DOC)

Restraint devices for mechanical joint fittings and appurtenances on Ductile Iron Pipe conforming to either ANSI/AWWA C111/A21.11 or ANSI/AWWA C153/A21.53, shall conform to the following:

Design

Restraint devices for nominal pipe sizes 3 inch through 48 inch shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10.

The devices shall have a working pressure rating of 350 psi for 3-16 inch and 250 psi for 18-48 inch. Ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes.

Material

Gland body, wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A536.

For applications requiring restraint 30 inch and greater, an alternate grade of iron meeting the material requirements of ASTM A536 is acceptable, providing the device meets all end product performance requirements.

Ductile iron gripping wedges shall be heat treated within a range of 370 to 470 BHN.

Three (3) test bars shall be incrementally poured per production shift as per Underwriter's Laboratory (U.L.) specifications and ASTM A536. Testing for tensile, yield and elongation shall be done in accordance with ASTM E8.

Chemical and nodularity tests shall be performed as recommended by the Ductile Iron Society, on a per ladle basis.

Traceability

An identification number consisting of year, day, plant and shift (YYDDD)(plant designation)(Shift number), shall be cast into each gland body.

All physical and chemical test results shall be recorded such that they can be accessed via the identification number on the casting. These Material Traceability Records (MTR's) are to be made available, in hard copy, to the purchaser that requests such documentation and submits his gland body identification number.

Production pieces that are too small to accommodate individual numbering, such as fasteners and wedges, shall be controlled in segregate inventory until

such time as all quality control tests are passed. These component parts may then be released to a general inventory for final assembly and packaging.

All components shall be manufactured and assembled in the United States. The purchaser shall, with reasonable notice, have the right to plant visitation at his/her expense.

Installation

Mechanical joint restraint shall require conventional tools and installation procedures per AWWA C600, while retaining full mechanical joint deflection during assembly as well as allowing joint deflection after assembly.

Proper actuation of the gripping wedges shall be ensured with torque limiting twist off nuts.

Approvals

Restraint devices shall be Listed by Underwriters Laboratories (3" through 24" inch size) and Approved by Factory Mutual (3" through 12" inch size).

Mechanical joint restraint for ductile Iron pipe shall be Megalug Series 1100 produced by EBAA Iron Inc. or approved equal.

MEGA-BOND™ Restraint Coating System

All wedge assemblies and related parts shall be processed through a phosphate wash, rinse and drying operation prior to coating application. The coating shall consist of a minimum of two coats of liquid Xylan® fluoropolymer coating with heat cure to follow each coat.

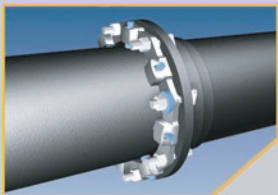
All casting bodies shall be surface pretreated with a phosphate wash, rinse and sealer before drying. The coating shall be electrostatically applied and heat cured. The coating shall be a polyester based powder to provide corrosion, impact and UV resistance.

The coating system shall be MEGA-BOND by EBAA Iron, Inc. or approved equal. Requests for approved equal must submit coating material and process details for review prior to bid.

For more information regarding MEGA-BOND, refer to the MEGA-BOND brochure or visit www.ebaa.com.

Support Products

for more information concerning these products please consult the catalog or www.ebaa.com

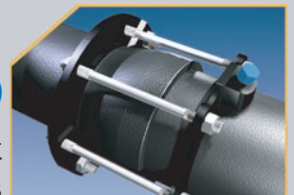


Series 1100SD

Split MEGALUG Restraint
for Existing Mechanical Joints

Series 1700

MEGALUG Restraint
for Push-On Bells



Series 1100SDB

Split MEGALUG Restraint
for Mid Span Applications

Series 1100HD

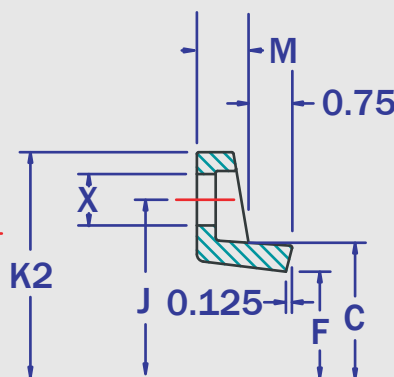
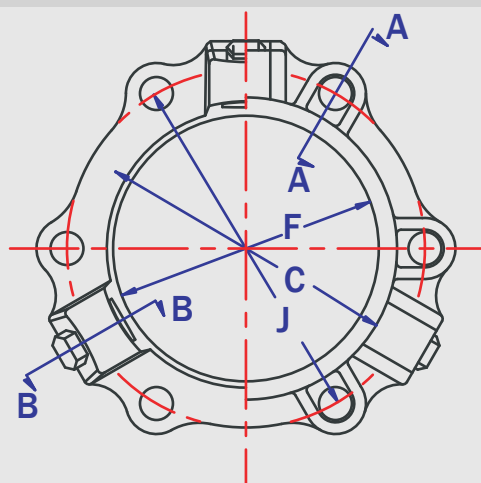
Split MEGALUG Restraint
for Existing Push-On Bells



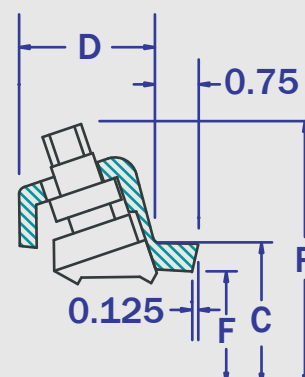
Series 1100 Submittal Reference Drawing

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SECTION A-A



SECTION B-B

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S
A

Nominal Pipe Size	Series Number	C	D	F	M	P (with nuts Off)	X	J	K2	Wedge Qty	Bolt Qty	Weight LBS	Press Ratings
3	1103	4.48	2.27	4.06	0.62	9.06	0.750	6.19	7.69	2	4	6.1	350
4	1104	5.92	2.27	4.90	0.75	9.90	0.875	7.50	9.12	2	4	7.6	350
6	1106	8.02	2.27	7.00	0.88	12.00	0.875	9.50	11.12	3	6	11.8	350
8	1108	10.17	2.31	9.15	1.00	14.15	0.875	11.75	13.37	4	6	14.9	350
10	1110	12.22	2.37	11.20	1.00	16.20	0.875	14.00	15.62	6	8	23.9	350
12	1112	14.32	2.37	13.30	1.25	18.30	0.875	16.25	17.88	8	8	31.2	350
14	1114	16.40	2.69	15.44	1.50	20.94	0.875	18.75	20.25	10	10	49.7	350
16	1116	18.50	2.69	17.54	1.56	22.90	0.875	21.00	22.50	12	12	56.4	350
18	1118	20.60	2.69	19.64	1.63	25.00	0.875	23.25	24.75	12	12	63.6	250
20	1120	22.70	2.69	21.74	1.69	27.10	0.875	25.50	27.00	14	14	71.0	250
24	1124	26.90	3.20	25.94	1.81	32.64	0.875	30.00	31.50	16	16	128.7	250
30	1130	33.29	3.20	32.17	2.25	38.87	1.125	36.88	39.12	20	20	190.7	250
36	1136	39.59	3.20	38.47	2.25	45.17	1.125	43.75	46.00	24	24	226.5	250
42	1142	45.79	4.56	44.67	3.88	55.57	1.375	50.62	53.48	28	28	518.9	250
48	1148	52.09	4.56	50.97	3.88	61.87	1.375	57.50	60.36	32	32	608.3	250

Note: Dimensions are in inches and are subject to change without notice.

Important Notes

- The 1100 Series should not be used on plain end fittings.
- For test pressures above the rated pressures shown, contact EBAA for recommendations, such as tandem restraint for high pressure applications.
- If you experience the need to install the 1100 Series in an unconventional manner please consult our engineering department.
- 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 DI-1.
- EBAA Seal Gaskets are provided with the 30" through 48" MEGALUG restraints. These are required on the above referenced sizes to accommodate the pressure ratings and safety factors shown.
- Extra length T-bolts are provided with the 42" and 48" sizes to facilitate easier assembly of the mechanical joint.
- All MEGALUG components are made of ductile iron. The wedges are heat treated to a hardness range of 370 to 470 BHN.
- LISTINGS AND APPROVALS Sizes 3" through 24" are listed by Underwriters Laboratories, Inc. Category HJKF "Fittings, Retainer Type," with a deflection angle of 5 degrees (3" through 12") and 2-1/2 degrees (14" through 24".) The listing file number is EX2836. Sizes 3" through 12" are Factory Mutual approved.

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

PROJECT NAME	
ADDRESS	
NUMBER	
OWNER	
ARCHITECT / ENGINEER	
SUBMITTED BY	
CONTRACTOR / CM SUBMITTAL NO.	CANNON DESIGN SUBMITTAL NO.
DRAWING / DETAIL REFERENCE	SPECIFICATION SECTION / PARAGRAPH
MANUFACTURER / SUPPLIER	ITEM / PRODUCT ID
REQUIRED DATE	PRIORITY
CRITICALITY	

To be completed by Reviewer

CANNON DESIGN SUBMITTAL NUMBER
RECEIVED DATE

- ☐ **A. No Exceptions Taken**
No further review of submittal is required.
- ☐ **B. Make Corrections Noted**
Incorporate corrections in work;
resubmission is not required.
- ☐ **C. Revise and Resubmit**
Revise as noted, and resubmit for review.
- ☐ **D. Rejected**
Submittal is not in compliance with Contract Documents;
provide new submittal.
- ☐ **E. For Record / Information Only**
Submittal was reviewed for Record / Information
purposes only.
- ☐ **F. Not Required for Review**
Submittal is not required by Contract Documents
and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

ITEM BEING SUBMITTED (check only one)

- ☐ Shop Drawings ☐ Certification / Qualifications ☐ Coordination Drawing
☐ Samples ☐ Record Documents ☐ Calculations
 (_____ copies) ☐ Product Data ☐ Schedules
☐ LEED Submittal ☐ O&M Manuals
☐ Other _____

ITEM BEING SUBMITTED FOR (check only one)

- ☐ Action ☐ Information Only ☐ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)



PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

Ry:

Devin D. Gates

REVIEWED BY	DATE

A/E COMMENTS

- ☐
- See attached sheet(s) for additional comments

REVIEWED BY	DATE



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0173

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 08/04/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Split Water Service Product Data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:		SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings		☒ Approval	☐ Approved as Submitted
☐ Letter		☐ Your Use	☐ Approved as Noted
☐ Prints		☐ As Requested	☐ Returned After Loan
☐ Change Order		☐ Review and Comment	☐ Resubmit
☐ Plans			☐ Submit
☐ Samples		SENT VIA:	☐ Returned
☐ Specifications		☐ Attached	☐ Returned for Corrections
☒ Other: Product Data		☐ Separate Cover Via:	☐ Due Date:

Item	Package	Code	Rev.	Copies	Date	Description	Status
Submittal		221116-002	1		08/04/2016	Split Water Service Product Data	Submitted

NOTES:

CC:

Signed: _____
Devin Gates



SUBMITTAL TRANSMITTAL

345 Marshall Avenue Suite 302, Webster Groves, MO 63119
314-421-0042 phone, 314-231-9157 fax

To: Paric Corporation
77 Westport Plaza, Suite 250
St. Louis, MO 63146

From: Ethan Gwinn
Date: 8/4/2016

Attn: Jason Szachnieski

Project Name:
CASTLE Project Number:
Architect/Engineer's Project Number:

Subm. #: _____ **Sub/Vendor:** Midwest Municipal Supply

PLEASE FIND ENCLOSED:

Copies	Date	No.	Description
1	8/4/2016	1	Domestic & Fire Water Service

ACTION:

☒ For Approval	☐ Approved As Submitted
☐ For your Use	☐ Approved As Noted
☐ As requested	☐ Revise & Resubmit

COMMENTS:

CC: File