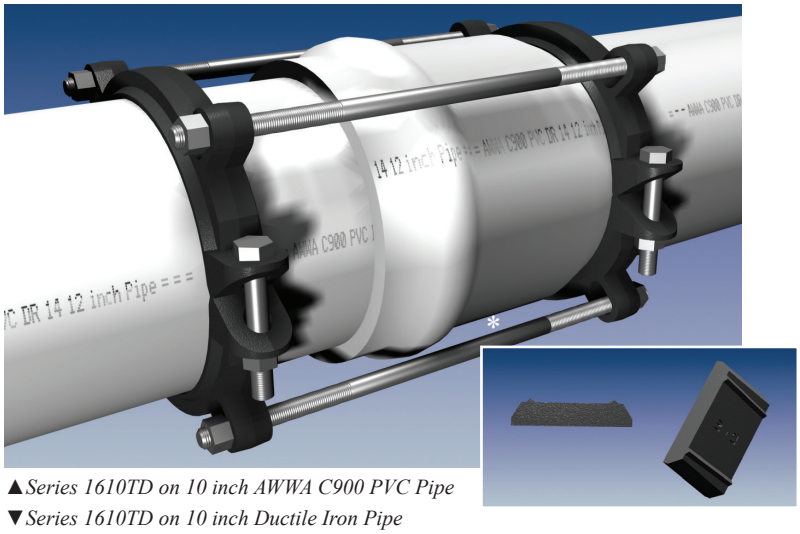
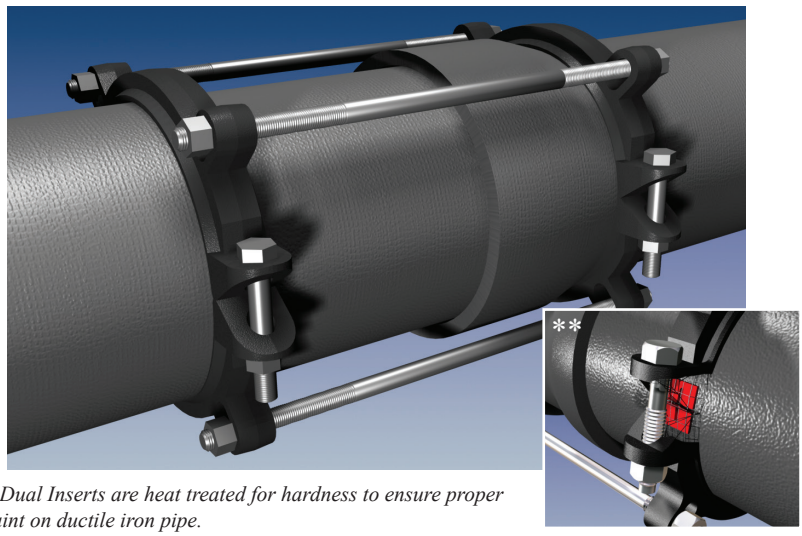
Tru-Dual® Series 1600TD

Bell Restraint Harness for Ductile Iron & C900 PVC Pipe
Split Serrated Restraint Ring, Split Non-Serrated Bell Ring

All EBAA products intended for installation on ductile iron pipe are designed for and limited to use on ductile iron pipes that comply with the requirements of ANSI/AWWA C151/A21.51 and have a Brinell Hardness or equivalent measurement value that does not exceed 230BHN. **These requirements apply to the entire pipe wall profile at all restraining wedge engagement points and to the full penetration depth of each restraining wedge.***



▲*Series 1610TD on 10 inch AWWA C900 PVC Pipe*



▼*Series 1610TD on 10 inch Ductile Iron Pipe*

**Tru-Dual Inserts are heat treated for hardness to ensure proper restraint on ductile iron pipe.*

***Two inserts are located near the clamp points on each half of the split serrated ring. This design provides maximum restraint on both ductile iron pipe and C900 PVC pipe enabling the product to be truly Tru-Dual.*

			Pressure Rating (PSI)			
			D.I. Pipe	PVC Pipe		
Nominal Pipe Size	Series Number	Approx. Weight	DIP	DR14 Class 200	DR18 Class 150	DR25 Class 100
4	1604TD	14.8	350	200	150	100
6	1606TD	20.5	350	200	150	100
8	1608TD	27.3	250	200	150	100
10	1610TD	53.8	250	200	150	100
12	1612TD	58.2	250	200	150	100

NOTE: For applications and pressures not shown, please contact EBAA.

Features and Applications:

- Restraint for Ductile Iron Pipe at Push-On Bells, meeting ANSI/AWWA C151/A21.51 and ANSI/AWWA C150/A21.50
- Restraint for AWWA C900 PVC Pipe at Push-On Bells
- Minimum 2 to 1 Safety Factor
- MEGA-BOND® Restraint Coating System For more on MEGA-BOND refer to www.ebaa.com
- Split design for ease of installation
- Constructed of ASTM A536 Ductile Iron

For use on water or wastewater pipelines subject to hydrostatic pressure and tested in accordance with either AWWA C600, C605, or ASTM D2774.

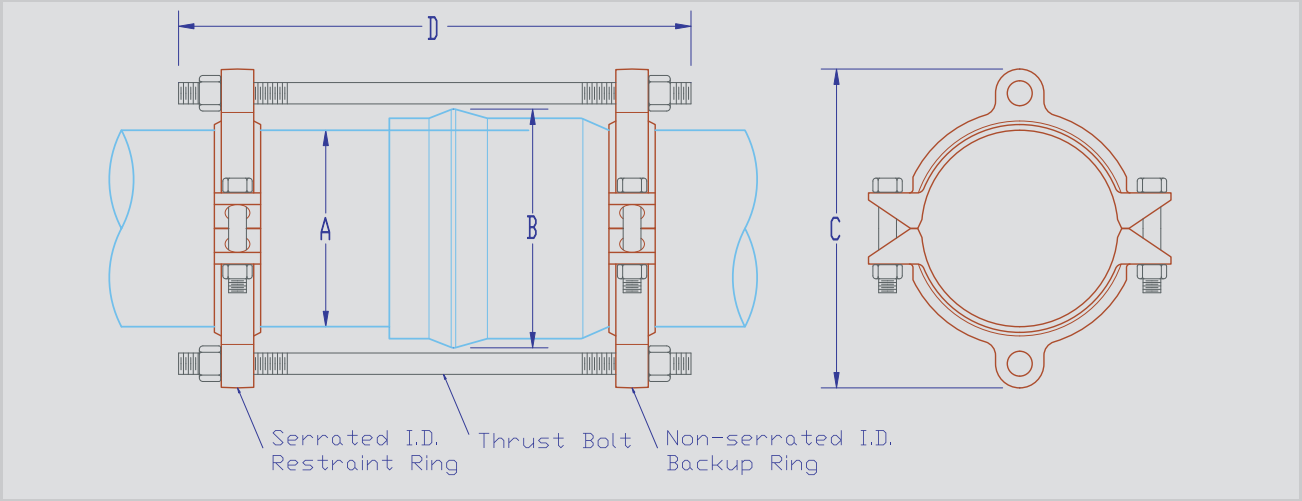
Sample Specification

Restraint at push-on pipe joints for Ductile Iron pipe and PVC pipe (AWWA C900) shall consist of the following: The restraint shall be manufactured of ductile iron conforming to ASTM A536. The restraint devices shall be coated using MEGA-BOND®. (For complete specifications on MEGA-BOND visit www.ebaa.com.) Side clamp bolts shall be of SAE J429 Grade 5 material. A split ring shall be utilized behind the pipe bell. A split, serrated ring, with a sufficient number of heat treated Tru-Dual® inserts for gripping both Ductile Iron Pipe and PVC pipe, shall be used to grip the spigot, plain end pipe. A sufficient number of bolts shall be used to connect the bell ring and the gripping ring. The restraint shall be the Series 1600TD, as manufactured by EBAA Iron, Inc., or approved equal.

Series 1600TD Submittal Reference Drawing

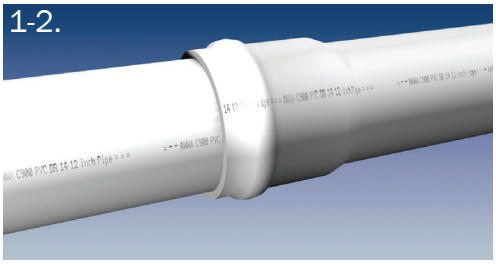
EBAA IRON

MADE IN USA



Nominal Pipe Size	Series Number	A Pipe O.D.	B Maximum Bell O.D. Cleared	C Max. Restraint O.D. (Casing Clearance)	D Overall Length	Thrust-Bolt (Number - Size)
4	1604TD	4.80	6.75	9.25	13	2 - ¾ x 13
6	1606TD	6.90	8.75	11.25	18	2 - ¾ x 18
8	1608TD	9.05	12.25	14.75	18	2 - ¾ x 18
10	1610TD	11.10	14.20	16.85	22	4 - ¾ x 22
12	1612TD	13.20	16.90	19.45	22	4 - ¾ x 22

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



1. The Series 1600TD is designed for restraining ductile iron pipe and C900 PVC at push-on bell joints. It has a split, serrated restraint ring with heat treated inserts on the spigot and a split non-serrated ring behind the bell.

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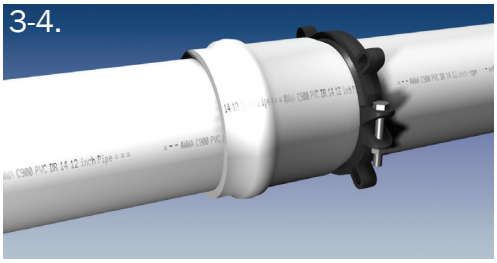
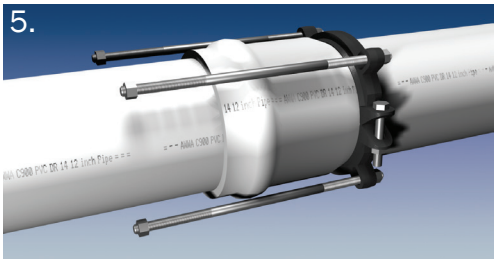
2. Assemble the push-on joint per the pipe manufacturer's instructions.

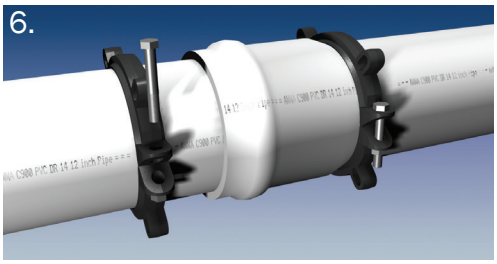


3. Install both halves of the non-serrated bell ring around the pipe behind the bell. Install the side bolts and tighten each to 60 ft-lbs (110 ftlbs on 8 inch, 10 inch and 12 inch).

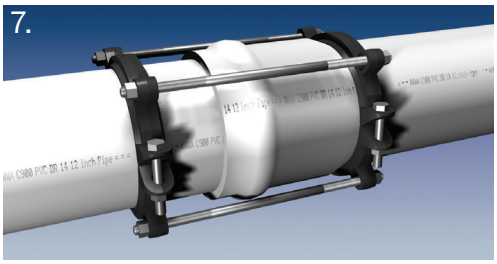
4. Slide the bell ring toward the bell so that it fits snugly behind the bell.



5. Remove the side bolts from the serrated restraint ring. Use the tie bolts to determine the proper location of the restraint ring on the spigot. Allow enough room on the tie bolt to fully engage the nuts.



6. Install both halves of the restraint ring at the proper location, tapping each half into place. Make sure that the complete ID of the ring is touching the pipe before installing the side bolts. Tighten the side bolts evenly to 60 ft-lbs torque (110 ft-lbs on 8 inch, 10 inch and 12 inch).



7. Place nuts on the tie bolts and tighten until they are snug. Allow enough room on the tie bolt to fully engage the nut with several threads showing. Do not tighten these bolts enough to force the spigot further into the bell of the joint.

***To learn more about this addendum, please visit:**
https://ebaa.com/spec/dip

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