

## Material Specification – 29

### JOINT RESTRAINTS

**1. GENERAL**

Mechanical joint restraints shall be manufactured of DI in accordance with ASTM A 536 with the following additional requirements or exceptions.

Mechanical joint restraints shall be incorporated into the design of a follower gland. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts in accordance with AWWA C111 and C153.

**2. DESCRIPTION**

The restraint mechanism shall consist of numerous individually activated gripping surfaces to maximize restraint capability. The gripping surfaces shall be wedges that are designed to spread the bearing surfaces on the pipe. Twist-off nuts, sized the same as tee-head bolts, shall be used to ensure the proper actuating of restraining devices. When the nut is sheared off, a standard hex nut shall remain.

**3. PRESSURE RATING**

The mechanical joint restraint device shall be as listed as follows:

Type of Pipe	Size (Inch)	Pressure Rating (psi)	Safety Factor
DI	3 to 16	350	2
	20 to 36	250	2
PVC	Various	Equal to that of the pipe being used	2

**4. MATERIAL**

The mechanical joint restraint gland and wedge assembly shall be manufactured from DI in accordance with ASTM A 536, Grade 65-45-12. Wedges shall be heat treated to a minimum of 370 BHN. Rubber gaskets shall be vulcanized styrene butadiene rubber (SBR) in accordance with AWWA C111. Tee-head bolts shall be manufactured from a high strength low alloy steel known in the industry as Cor-Ten, Usalloy, or Durabolt.

**5. APPROVED MANUFACTURERS AND MODELS**

Mechanical Joint Restraint – PVC Pipe		
Manufacturers	Models	Size (Inch)
EBAA Iron, Inc.	Megalug 2000 PV Series	4 to 20
The Ford Meter Box Company	UFR 1500R	4 to 6
	UFR 1500	4 to 20
Romac Industries	RomaGrip	4 to 20

<b>Mechanical Joint Restraint – PVC Pipe</b>		
<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
Sigma Corporation	One-Lok SLCE Series	4 to 20
SIP Industries	EZ Grip	4 to 20
Smith Blair	Cam-Lock	4 to 20
Star Pipe Products	StarGrip Series 4000	4 to 20
	StarGrip Series 4000G2	4 to 12
Tyler Union	TufGrip	4 to 20

<b>Mechanical Joint Restraint – DI Pipe</b>		
<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
EBAA Iron, Inc.	Megalug 1100 Series	3 to 20
The Ford Meter Box Company	UFR Series 1400	3 to 20
Romac Industries	RomaGrip	3 to 20
SIP Industries	EZ Grip	3 to 20
Sigma Corporation	One-Lok SLDE Series	3 to 20
Smith-Blair	Cam-Lock	3 to 20
Star Pipe Products	StarGrip 3000 Series	3 to 20
Tyler Union	TufGrip	3 to 20

<b>Bell-Spigot Restraint – PVC Pipe</b>		
<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
Diamond Plastics Corporation	Diamond Lok-21	4 to 20
EBAA Iron, Inc.	Series 1500 TD	4 to 12
	Series 1500	4 to 12
	Series 2800	14 to 20
The Ford Meter Box Company	Ford 1390	4 to 20
JM Eagle	Eagle Loc 900	4 to 16
North American Pipe	C900/RJ	4 to 20
	C900/RJIB Certalok	6 to 12
Romac Industries	ALPHA Coupling, Flange Coupling, and End Cap	4 to 12

<b>Bell-Spigot Restraint – PVC Pipe</b>		
<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
SIP Industries	EZ Grip PTP	4 to 20
Sigma Corporation	PV-Lok PWP	4 to 20
Star Pipe Products	Series 1100	4 to 20

<b>Bell-Spigot Restraint – DI Pipe</b>		
<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
American	Fast-Grip Gasket	4 to 20
	Flex-Ring Joint	4 to 20
EBAA Iron, Inc.	Megalug 1700 Series	4 to 20
	Series 1500 TD	4 to 12
The Ford Meter Box Company	UFR Series 1455	4 to 20
Gripper Gasket LLC	Boltless Restraint	3 to 20
McWane Ductile	Sure Stop 350	4 to 20
Romac Industries	ALPHA Coupling, Flange Coupling, and End Cap	4 to 12
Sigma Corporation	One-Lok SLDEH Series	3 to 20
Star Pipe Products	StarGrip 3100P Series	3 to 20
U. S. Pipe and Foundry Company	Field Lok Gasket	4 to 20
	TR Flex	4 to 20

<b>Bolt-Through Mechanical Joint Restraint</b>		
<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
In Fact Corporation	Foster Adaptor	3 to 20
Star Pipe Products	Series 100 MJ x MJ Adapter	4 to 12

<b>Hydrants and Valve Restraint – DI Pipe</b>	
<b>Manufacturer</b>	<b>Model</b>
Mueller	Aquagrip Restraint Device

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Mechanical Joint Restraint*