

TUFGRIP™

Series 1000 - For Ductile Iron Pipe

"A Proven Third Generation Mechanical Joint Restraint"

MJ TUFGrip™ TLD



Torque Nut



Tyler Union's TUF Grip restraints represent the culmination of 20 years of engineering and testing. As a 3rd generation restraint, TUF Grip is the best available technology in the Waterworks market for use in restraining Ductile Iron Pipe.



Designed by Harold Kennedy & Associates, Inc.

"BETTER BY DESIGN"

SPECIFICATIONS:

- Designed and proven to restrain plain end ductile iron pipe conforming to ANSI/AWWA C151/A21.51 in diameters 3" thru 48"
- Proven for use on heavy wall **Schedule 40 or greater steel pipe in sizes 3" - 12" and on all sizes 3" to 16" when pipe O.D. and wall thickness conforms to C151 **Note: IPS diameter steel pipe requires the use of an MJ Transition gasket
- Restraint design conforms with applicable requirements of ANSI/AWWA C111, ANSI/AWWA C153, and ANSI/AWWA C110
- Restraint engineered for securing plain end pipe to mechanical joint fittings conforming to ANSI/AWWA C110, C111, and C153
- Restraints rated for working water pressure of 350 psi and transitory surges of 100psi for 3" thru 16" and 250 psi for 18" thru 48"
- Cast of ASTM A536 compliant 65-45-12 ductile iron complete with a cast on date code and country of origin for traceability
- Restraints and all components are designed and proven for a 2:1 safety factor based on the pipe pressure rating
- Restraint deflection rating when installed on nominal diameter pipe is 3" - 3", 4"-12" - 5°, 14"-16" - 2°, and 18"-48" - 1.5°
- Standard coating for Non-Domestic restraint is 4-6 mil of *Alkyd resin baking enamel - ***Note: Epoxy coatings available upon request**
- Gripping wedges are heat treated to a minimum 420 Brinell Hardness
- Gripping wedge, wedge collar bolt, and twist off torque limiting nut shall be e-coated
- FM approved for 4" thru 12" applications and UL listed and approved for 3" thru 24" applications
- Not recommended for use on plain end fittings
- Color coded black for pipe type(ductile/*cast iron/**steel) - ***Note: Refer to the following pages for cast iron and steel pipe applications**

FEATURES & ADVANTAGES:

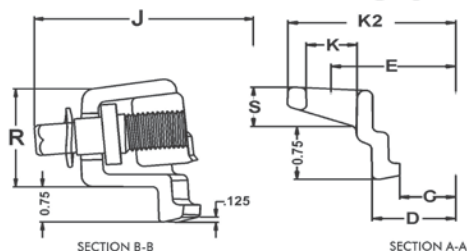
- Torque limiting nut on gripping wedge assembly twists off within a designed torque range eliminating the need for specialized tools
- Gripping wedge assembly pivots providing stronger engagement of pipe wall at lower torque requirement (45-60 ft.-lbs.)
- Proven restraint technology utilizing fewer gripping wedges in frequently applied diameters, reducing trench time and project cost
- Restraint's heavy duty construction and design eliminates the need for costly thrust blocks and tie rods
- Suitable for Potable and Wastewater applications

ISO 9001-2008 Registered		Listed with Underwriters Laboratory		Factory Mutual Approved
Product Source/Type	Name of Project	Name of Contractor	Project Engineer	Spec. Section and/or Project No.

Tyler Union Waterworks Contact Information

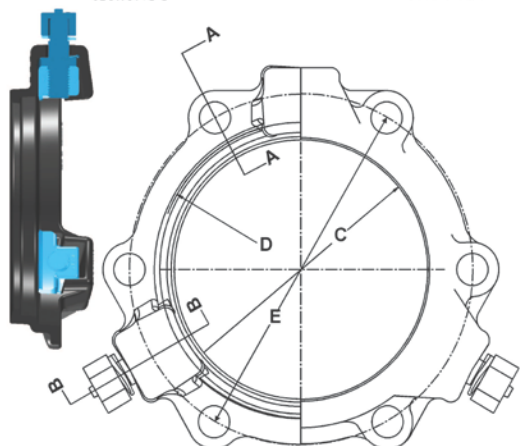
Tyler: 11910 CR 492 • Tyler, Texas 75706 • (800) 527-8478
Anniston: 1501 W 17th St. • Anniston, AL 36201 • (800) 226-7601
Corona: 1001 El Camino Ave. • Corona, CA 92879 • (866) 527-8471

Series 1000-Ductile Pipe Restraint



TUFGRIP™ MJ Restraint Dimensions

Size (inches)	C	D	E	K2	J	K	R	S
3	4.08	4.88	6.19	7.67	9.82	3/4	2.20	0.86
4	4.93	5.92	7.50	8.98	10.67	7/8	2.20	0.73
6	7.03	8.02	9.50	10.98	12.77	7/8	2.24	0.82
8	9.18	10.17	11.75	13.23	14.92	7/8	2.28	0.82
10	11.23	12.22	14.00	15.70	16.97	7/8	2.37	0.93
12	13.33	14.32	16.25	17.95	19.07	7/8	2.40	0.93
14	15.44	16.40	18.75	20.43	21.18	7/8	2.57	0.91
16	17.54	18.50	21.00	22.88	23.28	7/8	2.57	1.05
18	19.64	20.60	23.25	25.43	25.38	7/8	2.57	1.05
20	21.74	22.70	25.50	27.50	27.48	7/8	2.66	1.15
24	25.94	26.90	30.00	32.00	31.68	7/8	2.72	1.35
30	32.18	33.30	36.88	39.42	39.78	1-1/8	3.86	1.53
36	38.48	39.60	43.75	46.29	46.08	1-1/8	3.86	1.53
42	44.68	45.80	50.62	53.62	53.08	1-3/8	4.56	2.05
48	50.98	52.10	57.50	60.50	59.28	1-3/8	4.56	2.05



SERIES 1000 TLD-DUCTILE TUFGRIP™ - APPLICATION CHART

Size (Inches)	Part No. - Gland Only Domestic / Non-Domestic	Wedge Qty.	T-Head Bolt Qty.	Bolt Size	Gland Weight(lbs.)	Weight (w/Acc.)	Pressure Rating	Pipe O.D.
3	CALL / 113805	2	4	5/8" x 3"	6.5	10.5	350	3.96
4	515944 / 113812	2	4	3/4" x 3.5"	7.1	11.8	350	4.80
6	515968 / 113829	3	6	3/4" x 4"	11.2	18.8	350	6.90
8	515975 / 113836	3	6	3/4" x 4"	13.1	20.3	350	9.05
10	515982 / 113843	6	8	3/4" x 4"	26.0	32.5	350	11.10
12	515999 / 113850	8	8	3/4" x 4"	31.5	40.4	350	13.20
14	516231 / 113867	10	10	3/4" x 4.5"	43.3	53.6	350	15.30
16	516255 / 113874	12	12	3/4" x 4.5"	54.1	66.3	350	17.40
18	516279 / 113898	12	12	3/4" x 4.5"	59.8	72.2	250	19.50
20	516293 / 113904	14	14	3/4" x 4.5"	69.8	83.8	250	21.60
24	516316 / 113911	16	16	3/4" x 5"	90.4	106.9	250	25.80
30	CALL / 461289	20	20	1" x 7.5"	248	290	250	32.00
36	CALL / 461333	24	24	1" x 7.5"	277	327	250	38.30
42	CALL / 461319	28	28	1-1/4" x 8.5"	448	512	250	44.50
48	CALL / 461326	32	32	1-1/4" x 8.5"	519	597	250	50.80

ISO 9001-2008 Registered

Listed with Underwriters Laboratory

Factory Mutual Approved

STOP-LOOK :

- Extra length T-Head bolts are provided with 30 thru 48 inch restraints to facilitate mechanical joint assembly
- For UL/FM Approvals, 3-12 inch were tested at 5° of deflection and 14-24 inch were tested at 3° of deflection; all test were to 700 psi
- The Series 1000 TUF Grip is specified for use on ductile iron pipe but can be used on some sizes of cast grey iron or pit cast pipe if the pipe is not severely corroded, is in sound condition, and has an outside diameter compatible with the as provided dimensions
- TUF Grip 30 to 48 inch provided with TRU-Lock™ mechanical joint gasket to ensure pressure ratings and safety factors are met
- Installation and hydrostatic testing shall be in accordance with AWWA C600 and AWWA C651
- Some vertical applications where piping is partially buried may require additional restraint – Contact Tyler Union Waterworks
- **Caution:** Pressure testing of piping systems restrained or un-restrained with insufficient backfill or bracing is not recommended

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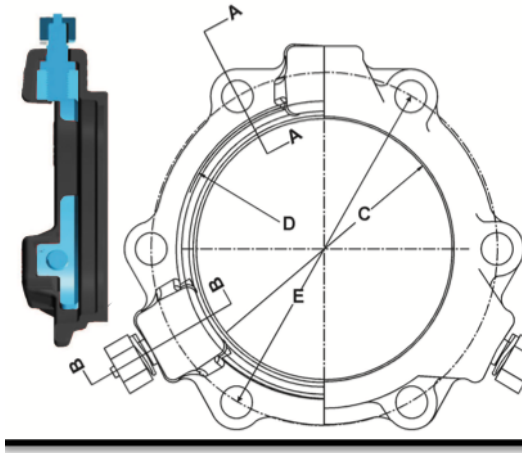
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8	113836	3	6	3/4" x 4"	13.1	20.3	350	9.05
10	113843	6	8	3/4" x 4"	26.0	32.5	350	11.10
12	113850	8	8	3/4" x 4"	31.5	40.4	350	13.20
14	113867	10	10	3/4" x 4-1/2"	43.3	53.6	350	15.30
16	113874	12	12	3/4" x 4-1/2"	54.1	66.3	350	17.40
18	113898	12	12	3/4" x 4-1/2"	59.8	72.2	250	19.50
20	113904	14	14	3/4" x 4-1/2"	69.8	83.8	250	21.60
24	113911	16	16	3/4" x 5"	90.4	106.9	250	25.80
30	461289	20	20	1" x 7-1/2"	248	290	250	32.00
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