

TYPICAL ENGINEERING DOCUMENTATION		NIPI-TYP-TS-PI1-DS-100			
DATASHEET FOR U-BOLT SUPPORT		Rev.	1	Page	7 of 14

DATASHEET U-BOLT GUIDE (PS-06)

GENERAL

1	Type	U-bolt Guide – PS06 (refer NIPI-TYP-TS-PI1-GEN-01) - U-bolt Guide (PS06) type A: for normal pipe (only painting). - U-bolt Guide (PS06) type B: for pipe with composite added (total coat. ~2.5mm thickness by anti-corrosion department). Type as per Purchase requisition document (Project applied).
2	Support Pipe Size	as per Purchase requisition document (Project applied)
3	Quantity	as per Purchase requisition document (Project applied)

U-BOLT SUPPORT DESCRIPTION

4			<p>Item 1: U-bolt insulated with Polyolefin Polyshrink Item 2: Nuts (04 pcs) Item 3: plated steel Washer (04 pcs) Item 3a: insulating Washer (04 pcs if any) Item 4: Isolated bushing (02 pcs) Item 5: Non Gripping Half round I-rod Pad (01 Pc)</p>
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5	Item 1	U-bolt (01 pc): PTFE coated / hot-dip galvanized or equal (as per Purchase requisition), insulated with Polyolefin Polyshrink to nuts, dimensions are based on "Nu-Bolt" Engineering. U-bolt: -ASTM A36 for support pipe Carbon Steel -SS316 for support pipe Stainless Steel (as per Purchase requisition)
6	Item 2	U-bolt Nut (04 pcs): PTFE coated/ hot-dip galvanized or equal (as per Purchase requisition), Nuts: -ASTM A36 for support pipe Carbon Steel -SS316 for support pipe Stainless Steel (as per Purchase requisition)
7	Item 3	3mm thk. Plated steel Washer (04 pcs), PTFE coated / hot-dip galvanized (as per Purchase requisition)
8	Item 3a	3mm thk. insulating washer (04 pcs if any - as per Purchase requisition), PTFE or Glass reinforced epoxy resin G10
9	Item 4	Isolated bushing (02 pcs), PTFE or Glass reinforced epoxy resin G10 Can be installed from the top (through i-rod + structural support member, sleeve length / depth required increases), Vendor to Advise
10	Item 5	Non-Gripping Half round I-rod Pad (01 pc or 02pcs_special case as per Purchase requisition), Teflon pad (White) Maximum Operating Temperature 83°C. Weight Load on the I-rod at each Pipe Support : as per Purchase requisition
11	Dimension (mm)	See Drawing typical page 8,9, VTA - note 2,3
12	Weight	VTA

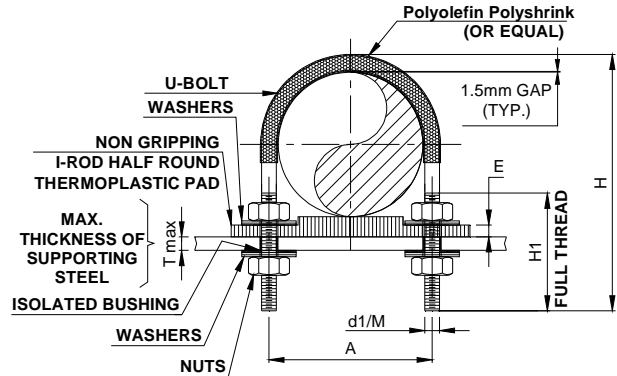
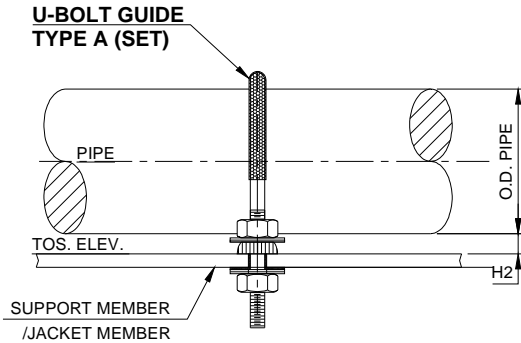
REQUIREMENT

13	Certificate	Certificate of conformance
14	Marking	as per MSS-SP-25

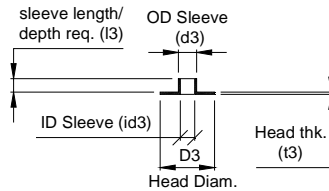
NOTES

- * VTA * Denotes Vendor to advise
1. Refer to Pipe Support Standard _ NIPI-TYP-TS-PI1-GEN-01.
 2. Drawing PS-06 U-bolt Guide: type A on page 8 & type B on page 9 are for reference, Vendor to advise.
 3. Vendor shall furnish detail cross section with dimensions and specify suitable materials, shall be completed with quotation.
 4. Refer page 14 for Non-Gripping Half round I-rod Pad's Adhesive information, Vendor to advise.

U-BOLT GUIDE (PS-06) - TYPE A FOR NORMAL PIPE



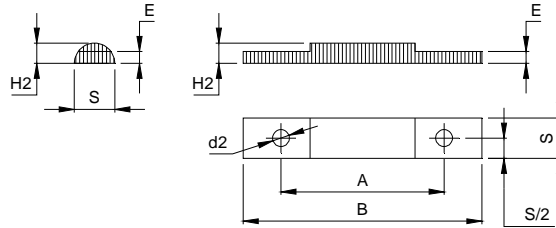
ISOLATED BUSHING



ISOLATED BUSHING (PTFE)

Can be installed from the top (through i-rod + structural support member, sleeve length / depth required increases), Vendor Advice

NON-GRIPPING HALF ROUND I-ROD THERMOPLASTIC PAD

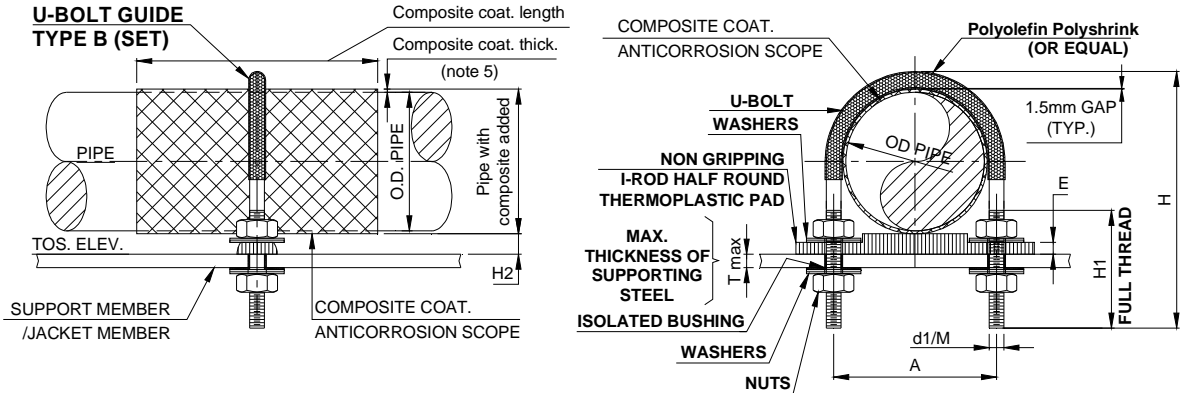


PIPE SIZE	T max note 2	U-BOLT (NOTE 1)							NON-GRIPPING I-ROD (NOTE 1)					ISOLATED BUSHING (NOTE 1)				
		d1	A	H	L	H1	MAX. LOAD	B	S	H2	E	d2	d3	id3	I3	D3	t3	
1/2"	10	1/4"	M6	31	80	180	60	220	60	20	10	5	9	8	6.1		12.2	2
3/4"	10	1/4"	M6	37	84	190	60	220	70	20	10	5	9	8	6.1		12.2	2
1"	10	3/8"	M10	47	87	200	60	550	76	25	12.5	6	13	12	10.1		24	2
1 1/2"	10	3/8"	M10	62	102	240	64	550	102	25	12.5	6	13	12	10.1		24	2
2"	10	3/8"	M10	74	114	270	64	550	114	25	12.5	6	13	12	10.1		24	2
2 1/2"	16	1/2"	M14	91	133	320	76	1025	128	25	12.5	6	17	16	14.1	5	30	3
3"	16	1/2"	M14	107	148	355	76	1025	152	25	12.5	6	17	16	14.1	to	30	3
4"	16	1/2"	M14	132	173	420	76	1025	178	25	12.5	6	17	16	14.1	30	30	3
6"	16	5/8"	M16	188	241	590	95	1640	230	25	12.5	6	19	18	16.1	(see	34.5	3
8"	20	5/8"	M16	239	292	720	95	1640	280	25	12.5	6	19	18	16.1	requ.	34.5	3
10"	20	3/4"	M20	297	351	870	102	2460	344	38	19	10	23	22	20.2	purc.	36	3
12"	20	7/8"	M24	355	408	1015	108	3420	406	38	19	10	28	27	24.2	&	44	3
14"	20	7/8"	M24	387	440	1100	108	3420	432	38	19	10	28	27	24.2	note	44	3
16"	20	7/8"	M24	437	491	1230	108	3420	484	38	19	10	28	27	24.2	1, 2)	44	3
18"	20	1"	M27	491	551	1380	121	4500	550	38	19	10	31	30	27.5		50	3
20"	20	1"	M27	542	602	1510	121	4500	600	38	19	10	31	30	27.5		50	3
24"	20	1"	M27	644	703	1770	121	4500	700	38	19	10	31	30	27.5		50	3
26"	20	1"	M27	694	754	1900	121	4500	750	38	19	10	31	30	27.5		50	3
28"	20	1"	M27	745	805	2030	121	4500	800	38	19	10	31	30	27.5		50	3

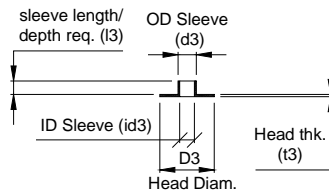
NOTES:

- U-BOLT, NON-GRIPPING I-ROD AND ISOLATED BUSHING DIMENSIONS BE ONLY FOR REFERENCE, REFER PURCHASE REQUIREMENT FOR MORE INFORMATION, AND THESE DIMENSION SHALL BE CONFIRMED BY VENDOR.
- WHERE SUPPORTING STEEL IS THICKER OR HEAVIER, DIMENSIONS "H" U-BOLT HEIGHT SHALL BE INCREASED ACCORDINGLY.
- I-ROD ADHESIVE SHALL BE COMPATIBLE WITH MAXIMUM OPERATING TEMPERATURE AND SHALL BE SUPPLIED BY VENDOR.
- INSTALLATION PROCEDURE SHALL BE FOLLOWED BY VENDOR.

U-BOLT GUIDE (PS-06) - TYPE B FOR PIPE WITH COMPOSITE ADDED (NOTE 5)



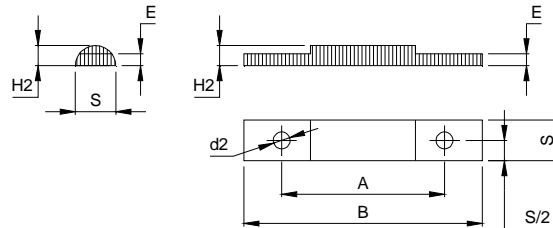
ISOLATED BUSHING



ISOLATED BUSHING (PTFE)

Can be installed from the top (through i-rod + structural support member, sleeve length / depth required increases), Vendor Advice

NON-GRIPPING HALF ROUND I-ROD THERMOPLASTIC PAD



PIPE SIZE	T max note 2	U-BOLT (NOTE 1)							NON-GRIPPING I-ROD (NOTE 1)					ISOLATED BUSHING (NOTE 1)					
		d1	A	H	L	H1	MAX. LOAD	B	S	H2	E	d2	d3	id3	I3	D3	t3		
2"	Ø60.3	10	3/8"	M10	79	119	280	64	550	120	25	12.5	6	13	12	10.1		24	2
2 1/2"	Ø73.0	16	1/2"	M14	96	138	330	76	1025	136	25	12.5	6	17	16	14.1	5	30	3
3"	Ø88.9	16	1/2"	M14	112	153	365	76	1025	158	25	12.5	6	17	16	14.1	to	30	3
4"	Ø114.3	16	1/2"	M14	137	178	430	76	1025	184	25	12.5	6	17	16	14.1	30	30	3
6"	Ø168.3	16	5/8"	M16	193	246	600	95	1640	236	25	12.5	6	19	18	16.1	(see	34.5	3
8"	Ø219.1	20	5/8"	M16	244	297	730	95	1640	290	25	12.5	6	19	18	16.1	requ.	34.5	3
10"	Ø273.1	20	3/4"	M20	302	356	880	102	2460	350	38	19	10	23	22	20.2	purc.	36	3
12"	Ø323.9	20	7/8"	M24	360	413	1025	108	3420	410	38	19	10	28	27	24.2	&	44	3
14"	Ø355.6	20	7/8"	M24	392	445	1110	108	3420	440	38	19	10	28	27	24.2	note	44	3
16"	Ø406.4	20	7/8"	M24	442	496	1240	108	3420	490	38	19	10	28	27	24.2	1, 2)	44	3
18"	Ø457.0	20	1"	M27	496	556	1390	121	4500	550	38	19	10	31	30	27.5		50	3
20"	Ø508.0	20	1"	M27	547	607	1520	121	4500	600	38	19	10	31	30	27.5		50	3
24"	Ø610.0	20	1"	M27	649	708	1780	121	4500	700	38	19	10	31	30	27.5		50	3
26"	Ø660.0	20	1"	M27	699	759	1910	121	4500	750	38	19	10	31	30	27.5		50	3
28"	Ø711.0	20	1"	M27	750	810	2040	121	4500	800	38	19	10	31	30	27.5		50	3

NOTES:

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 - WHERE SUPPORTING STEEL IS THICKER OR HEAVIER, DIMENSIONS "H" U-BOLT HEIGHT SHALL BE INCREASED ACCORDINGLY.
 - I-ROD ADHESIVE SHALL BE COMPATIBLE WITH MAXIMUM OPERATING TEMPERATURE AND SHALL BE SUPPLIED BY VENDOR.
 - INSTALLATION PROCEDURE SHALL BE FOLLOWED BY VENDOR.
 - FOR PROTECTION OF PIPING SYSTEMS (PIPE 2" ABOVE) FROM CORROSION UNDER SUPPORTS, COMPOSITE APPLICATION (TOTAL COATED ~2.5mm THICKNESS) SHOULD BE ADDED WITH LENGTH:
 - + PIPE 2" ÷ 6" : LENGTH WILL BE 200mm;
 - + PIPE 8" ABOVE : LENGTH WILL BE 300mm;
 - + IN SOME SPECIAL CASES (NOT ENOUGH SPACING), THE COMPOSITE LENGTH MAY BE min.100mm.
- COMPOSITE COATING SHALL BE COMPATIBLE WITH MAXIMUM OPERATING TEMPERATURE 80°C.
THIS COMPOSITE COATING WILL BE SUPPLIED BY ANTI-CORROSION DEPARTMENT (ANTI-CORROSION SCOPE).