



AE *AE OILFIELD*
PTE LTD
SINGAPORE

CUSTOM MADE
U - BOLTS

- MADE TO FIX YOUR NEEDS -

ABOUT US

AE is specialises in preventing clients' assets from corrosion with tailor made solutions especially in process piping and pipeline.

AE Oilfield is established in 2015. Since then, we have expanded and improved as a leading manufacturer of "Custom Made" U-bolt products.

Our Mission

- Always strive to provide our clients with supreme quality products and services to meet the high expectations of different industries and standards.

Our Commitment

- To ensure customer satisfaction and meeting their requirements at all the times.

We have the resources to accommodate your needs. Every request is equally important to us.

We continuously strive to provide customers with tailor made solutions at competitive prices and prompt delivery.

Over the years, AE has gain good reputation and cooperation from well-known partners further enhance our capability in delivering highest standard of products and services.

OUR CLIENTS



PTTEP



PETRONAS



**TENAGA
NASIONAL
BERHAD**



ExxonMobil



PERTAMINA

GENERAL U-BOLT

U-bolt are low or medium carbon steel, 304 / 316 stainless steel but other materials may be substituted subject to client's requirement.

ALL standard U-bolts assembly supplies with four (4) heavy hex nuts.

Client has options to select preferred coating system, insulation with or without half round corrosion isolator as below.

U-bolt Coatings selection :

- a) Hot-dip galvanized (HDG),
- b) Ceramic coating with Fluorocarbon (FCC)
- c) Zinc-Nickel Plated or Zinc Plated come with Fluorocarbon (FCC) Coated.

U-bolt Insulation selection :

- a) Polyolefin (Polyshrink)
- b) Round or D-Shape Neoprene insulated

Half Round Corrosion Isolator: I-rod®



POLYSHRINK SPECIFICATIONS

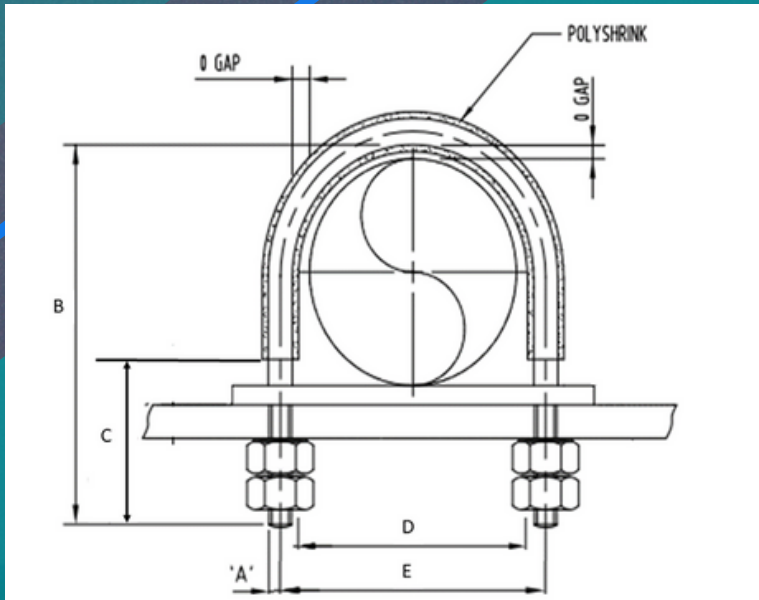
Property	Standard Metric [Imperial]	High Temperature** Metric [Imperial]
Max operating temp	110 °C [230 ° F]	200 °C [230 ° F]
Min operating temp	-55 °C [-67 °F]	-55 °C [-67 °F]
Tensile strength	14.47 MPa [2,100 psi]	14.47 MPa [2,100 psi]
Elongation	550%	550%
Specific gravity	1.1r	1.1r
Heat shock	No cracking / flowing	No cracking / flowing@250°C
Hardness	50D	50D
Dialectic strength	500kV/mm [12,700 V/mil]	500kV/mm [12,700 V/mil]
Volume resistivity	1016 Ohm/cm	1016 Ohm/cm
Water absorption	0.1%	0.1%
Adhesive peel strength		
to steel D1000	61 N/cm [35 pli]	61 N/cm [35 pli]
to PVC D1000	35/cm [20 pli]	35/cm [20 pli]

**Polyshrink is a excellent insulator material for anticorrosion to prevent metal to metal contact.

U-BOLT WITH POLYSHRINK

Fixed Type Dimensions

(With / Without Half-round Corrosion Isolator)



Nominal Pipe Size (DN)	[A] U-Bolt Diameter (mm)	[B] U-Bolt Height (mm)	[C] Thread Length (mm)	[D] Inside Gap (mm)	[E] Bolt C-to-C (mm)	Isolator Length (mm)	Isolator Height (mm)	Isolator Width (mm)
M6								
15	6	83	60	24	31	64	11	25
20	6	85	60	29	35	76	11	25
25	6	87	60	35	41	76	11	25
32	6	95	64	43	49	89	11	25
40	6	102	64	51	57	102	11	25
50	6	114	64	62	68	114	11	25
65	6	134	76	75	81	127	11	25
80	6	148	76	90	96	152	11	25
100	6	173	76	116	122	178	11	25

U-BOLT WITH POLYSHRINK

Fixed Type Dimensions (With / Without Half-round Corrosion Isolator)

Nominal Pipe Size (DN)	[A] U-Bolt Diameter (mm)	[B] U-Bolt Height (mm)	[C] Thread Length (mm)	[D] Inside Gap (mm)	[E] Bolt C-to-C (mm)	Isolator Length (mm)	Isolator Height (mm)	Isolator Width (mm)
M10								
15	10	83	60	24	34	64	11	25
20	10	85	60	29	39	76	11	25
25	10	87	60	35	45	76	11	25
32	10	95	64	43	54	89	11	25
40	10	102	64	51	60	102	11	25
50	10	114	64	62	71	114	11	25
65	10	134	76	75	85	127	11	25
80	10	148	76	90	101	152	11	25
100	10	173	76	116	127	178	11	25
120	10	198	76	143	154	203	11	25
150	10	241	95	171	181	229	11	25
200	10	292	95	222	232	279	11	25
M12								
40	12	102	64	51	63	102	11	25
50	12	114	64	62	74	114	11	25
65	12	134	76	75	87	127	11	25
80	12	148	76	90	103	152	11	25
100	12	173	76	116	129	178	11	25
120	12	198	76	143	156	203	11	25
150	12	241	95	171	183	229	11	25
200	12	292	95	222	234	279	11	25
250	12	351	102	279	291	343	18	38
300	12	408	108	327	339	406	18	38

U-BOLT WITH POLYSHRINK

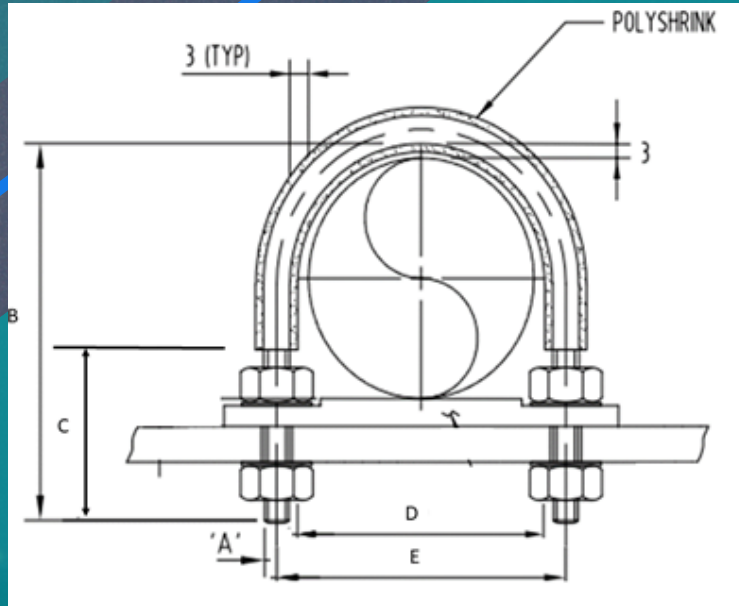
Fixed Type Dimensions

(With / Without Half-round Corrosion Isolator)

Nominal Pipe Size (DN)	[A] U-Bolt Diameter (mm)	[B] U-Bolt Height (mm)	[C] Thread Length (mm)	[D] Inside Gap (mm)	[E] Bolt C-to-C (mm)	Isolator Length (mm)	Isolator Height (mm)	Isolator Width (mm)
M16								
100	16	173	76	116	132	178	11	25
120	16	198	76	143	156	203	11	25
150	16	241	95	171	187	229	11	25
200	16	292	95	222	238	279	11	25
250	16	351	102	279	295	343	18	38
300	16	408	108	327	343	406	18	38
M20								
200	20	292	95	222	242	279	11	25
250	20	351	102	279	299	343	18	38
300	20	408	108	327	369	406	18	38
M22								
250	22	351	102	279	301	343	18	38
300	22	408	108	327	349	406	18	38

U-BOLT WITH POLYSHRINK

Guide Type Dimensions
(Flat / Half-round Corrosion Isolator)



Nominal Pipe Size (DN)	[A] U-Bolt Diameter (mm)	[B] U-Bolt Height (mm)	[C] Thread Length (mm)	[D] Inside Gap (mm)	[E] Bolt C-to-C (mm)	Isolator Length (mm)	Isolator Height (mm)	Isolator Width (mm)
M6								
15	6	83	60	30	36	64	11	25
20	6	85	60	35	41	76	11	25
25	6	87	60	41	47	76	11	25
32	6	95	64	49	55	89	11	25
40	6	102	64	57	63	102	11	25
50	6	114	64	68	74	114	11	25
65	6	134	76	81	87	127	11	25
80	6	148	76	96	102	152	11	25
100	6	173	76	122	128	178	11	25

U-BOLT WITH POLYSHRINK

Guide Type Dimensions (Flat / Half-round Corrosion Isolator)

Nominal Pipe Size (DN)	[A] U-Bolt Diameter (mm)	[B] U-Bolt Height (mm)	[C] Thread Length (mm)	[D] Inside Gap (mm)	[E] Bolt C-to-C (mm)	Isolator Length (mm)	Isolator Height (mm)	Isolator Width (mm)
M10								
15	10	83	60	30	40	64	11	25
20	10	85	60	35	45	76	11	25
25	10	87	60	41	51	76	11	25
32	10	95	64	49	59	89	11	25
40	10	102	64	57	67	102	11	25
50	10	114	64	68	78	114	11	25
65	10	134	76	81	91	127	11	25
80	10	148	76	96	106	152	11	25
100	10	173	76	122	132	178	11	25
120	10	198	76	149	159	203	11	25
150	10	241	95	177	187	229	11	25
200	10	292	95	228	238	279	11	25
M12								
40	12	102	64	57	69	102	11	25
50	12	114	64	68	80	114	11	25
65	12	134	76	81	94	127	11	25
80	12	148	76	96	109	152	11	25
100	12	173	76	122	135	178	11	25
120	12	198	76	149	162	203	11	25
150	12	241	95	177	189	229	11	25
200	12	292	95	228	240	279	11	25
250	12	351	102	285	297	343	18	38
300	12	408	108	337	349	406	18	38

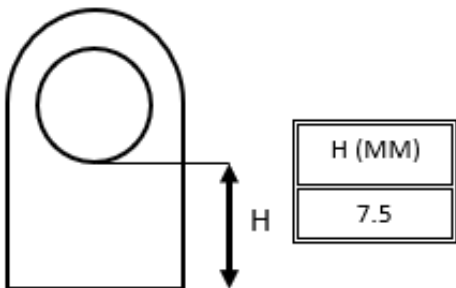
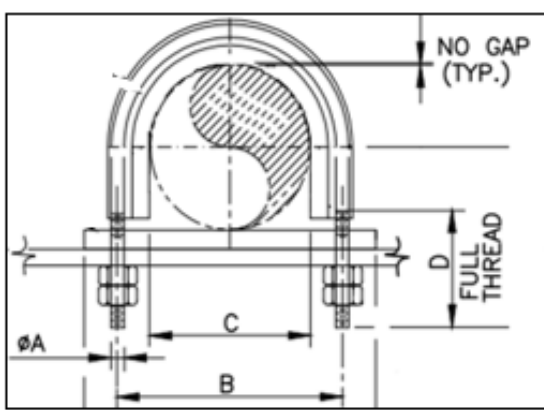
U-BOLT WITH POLYSHRINK

Guide Type Dimensions

(Flat / Half-round Corrosion Isolator)

Nominal Pipe Size (DN)	[A] U-Bolt Diameter (mm)	[B] U-Bolt Height (mm)	[C] Thread Length (mm)	[D] Inside Gap (mm)	[E] Bolt C-to-C (mm)	Isolator Length (mm)	Isolator Height (mm)	Isolator Width (mm)
M16								
100	16	173	76	122	138	178	11	25
120	16	198	76	149	165	203	11	25
150	16	241	95	177	193	229	11	25
200	16	292	95	228	244	279	11	25
250	16	351	102	285	301	343	18	38
300	16	408	108	337	353	406	18	38
M20								
200	20	292	95	228	248	279	11	25
250	20	351	102	285	305	343	18	38
300	20	408	108	337	357	406	18	38
M22								
250	22	351	102	285	307	343	18	38
300	22	408	108	337	359	406	18	38

D-SHAPE NEOPRENE RUBBER INSULATED U-BOLT CLAMP

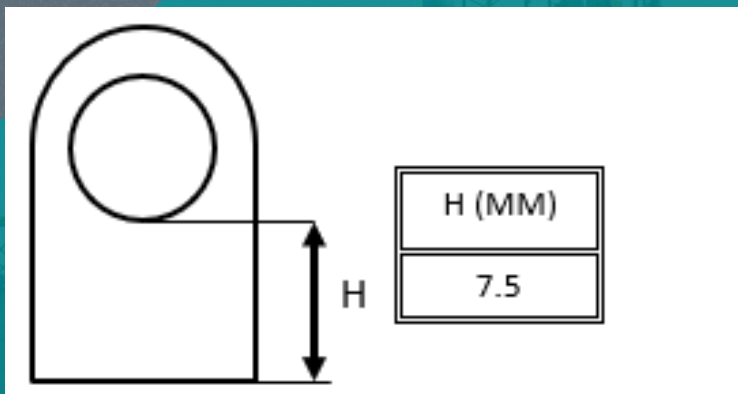
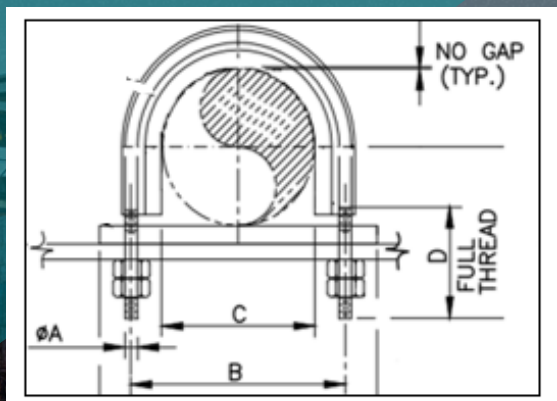


		Material	
U Bolt		Carbon Steel	Stainless Steel
Nuts			
Base		Bakelite/ Thermoplastic I-ROD (REFER NOTES)	
Insulator		D-Shape Neoprene Rubber Sleeve	
		Surface Finish	
U Bolt		ZnNi + FCC	
Nut		Hot Dipped Galvanised (REFER NOTES)	Plain
Washer			

NOTES

- U-Bolt will supply with 4 hex nuts & 2 flat washers.
- M6 -will supplied with Low Carbon Steel U-bolts supplied in Mechanical Galvanized
- Bakelite have a good electrical property with electric strength more than 200kv/cm and breakdown voltage with 40KV, suitable for Explosion Proof Environment, to isolate and prevent metallic contact and it meet the requirement of MIL-I-24768, Type FBG
- Half Round Shaped I-ROD minimizing the contact area and ensuring water evaporates before damaging the paint/ coating, it have high compressive strength and its help to isolate and prevent metallic contact.

D-SHAPE NEOPRENE RUBBER INSULATED U-BOLT CLAMP



Pipe		Description	U-Bolt				Part No.	
Nominal Size	Outside Diameter		Bolt Diameter (A)	(C)	Centers (B)	(D)	Carbon Steel	Stainless Steel
DN	mm		mm	mm	mm	mm		
15	21.3	DN15 Insulated U-Bolt	M6	22	37	70	60001	50015
20	26.9	DN20 Insulated U-Bolt	M6	27	42	70	60002	50016
25	33.7	DN25 Insulated U-Bolt	M6	34	49	70	60003	50017
40	48.3	DN40 Insulated U-Bolt	M10	49	72	85	60005	50019
50	60.3	DN50 Insulated U-Bolt	M10	61	84	85	60006	50020
80	88.9	DN80 Insulated U-Bolt	M12	89	112	95	60008	50022
100	114.3	DN100 Insulated U-Bolt	M12	115	138	95	60009	50023
150	168.3	DN150 Insulated U-Bolt	M16	169	206	105	60010	50024
200	219.1	DN200 Insulated U-Bolt	M16	220	257	105	60011	50025
250	273.0	DN250 Insulated U-Bolt	M16	273	310	105	60012	50026
300	323.9	DN300 Insulated U-Bolt	M16	324	361	105	60013	50027

HOT DIPPED GALVANISED (HDG) / ZnNi + FCC U- BOLT CLAMP

		Material	
U Bolt	Carbon Steel	Stainless Steel	
Nuts			
Insulator	Polyshrink		
		Surface Finish	
U Bolt	ZnNI +FCC Hot Dipped Galvanised (refer to Notes)	Plain	
Nuts			
Washer			



ZnNI + FCC



HOT DIPPED GALVANISED

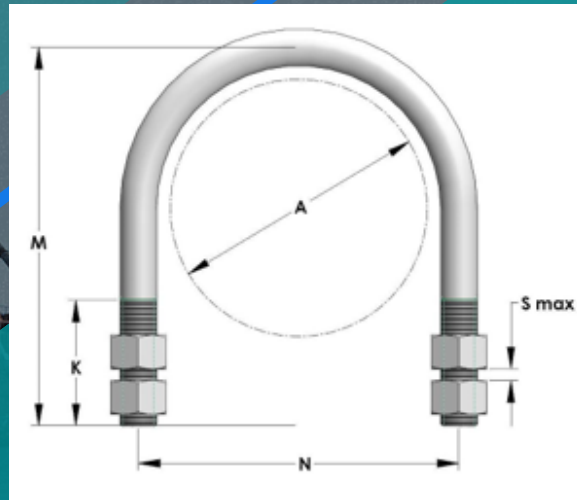


HDG WITH POLYSHRINK

NOTES

- Polyshrink is an excellent insulator material for anticorrosion
- U-Bolt will supply with 4 hex nuts & 2 flat washers.
- M6 - will be supplied with Low Carbon Steel U-bolts supplied in Mechanical Galvanised
- Half Round Shaped ROD minimizing the contact area and ensuring water evaporates before damaging the paint/coating, it has high compressive strength and its help to isolate and prevent metallic contact.

HOT DIPPED GALVANISED (HDG) / ZnNi + FCC U- BOLT CLAMP



Pipe Size		Description	Thread Size	Centres (N)	(M)	Thread Length (K)	(S max)	Item Weight	Part No.	
Nominal Size	Outside Diameter (A)								Carbon Steel	Stainless Steel
NB	mm			mm	mm	mm	mm	mm	kN	
15	21.3	DN15 U-Bolt	M8	40	50	25	10	0.07	30001	40001
20	26.7	DN20 U-Bolt	M8	45	55	25	10	0.08	30002	40002
25	33.4	DN25 U-Bolt	M8	50	60	30	10	0.08	30003	40003
40	48.3	DN40 U-Bolt	M10	65	85	40	16	0.18	30004	40004
50	60.3	DN50 U-Bolt	M10	80	100	40	16	0.20	30005	40005
80	88.9	DN80 U-Bolt	M16	110	140	55	19	0.67	30006	40006
100	114.3	DN100 U-Bolt	M16	140	165	55	19	0.78	30007	40007
150	168.3	DN150 U-Bolt	M20	195	225	65	19	1.65	30008	40008
200	219.1	DN200 U-Bolt	M20	250	275	65	19	1.98	30010	40010
250	273.0	DN250 U-Bolt	M20	305	335	75	22	2.36	30011	40011
300	323.9	DN300 U-Bolt	M20	355	385	75	22	2.68	30012	40012