



YOUNGNAM METAL CO., LTD

(주)영남메탈

SINCE 1986



TYPE OF PRODUCTS

1. Penetration Piece
(A, B Class Bulkheads & Decks)
2. High & Low Hydro Test Plugs
3. Rubber Pad & Steel Strap



INNOBIZ
기술혁신형중소기업



1) PENETRATION PIECE

TYPE APPROVAL CERTIFICATES (PENETRATION PIECE)



YA-TYPE



YB-TYPE

Test Results:

The test specimen satisfied the performance criteria of Class A-60 specified in IMO Res. A. 754(18)

General Description of the Product

This products were designed and made for the purpose of single copper pipe penetrating of bulkhead and deck of the A & B class division in ship.

Type YA is designd for the use of A-0, A-15, A-60 steel bulkheads and decks with approved insulation arrangements.

Type YB is designd for the use of A-0 bulkheads and decks .

Test Standard: SOLAS 2000 and IMO RESOLUTION A754(18)

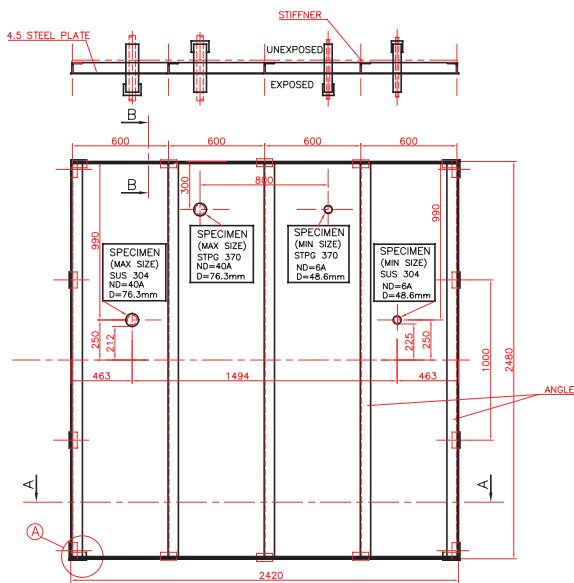


STRUCTURAL STEEL CORE FOR "A" CLASS BULKHEAD FOR PENETRATION PIECE



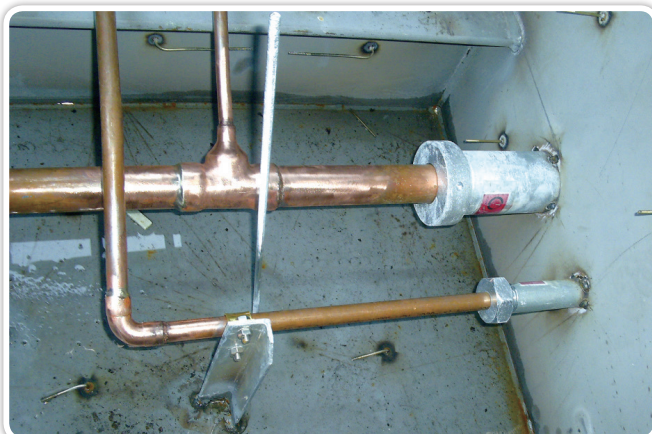
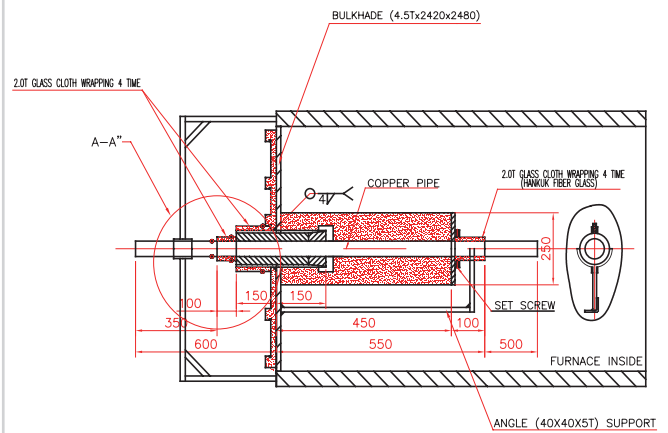
STRUCTURAL STEEL CORE FOR "A" CLASS DECK FOR PENETRATION PIECE

HORIZONTAL CROSS SECTION



<ELEVATION VIEW> VERTICAL FIRE TEST

DRAWING OF THE PENETRATION PIECE FOR FIRE TEST (BULKHEAD)



2) HIGH & LOW HYDRO TEST PLUGS

Purpose of Using the High Pressure Test Plugs(Max 100kgf/cm²)

The medium / high pressure test plugs is intended to check the pressure test at the end of the pipeline from 6 to 100Kgf/cm² for ship, compressed air, building, industrial construction etc. There is no problem in repeated use and reduce costs and improve operational efficiencies is to the user in maintaining the pressure in the pipe.



Purpose of Using the Test Plugs(Max 5kgf/cm²)

The low pressure test plugs is intended to check the pressure test at the end of the pipeline from 0 to 5Kgf/cm². There is no problem in repeated use and reduce costs and improve operational efficiencies is to the user in maintaining the pressure in the pipe



❖ HYDRO Test Plugs Reports for Steel Pipes ❖

SIZE	Schedule	High Pressure Test Plugs		
		Torque (N.m)	Working Pressure (kgf/cm ²)	Bursting Pressure (Kgf/cm ²)
25A	#40	30	17.5	70
	#80	20	25.0	100
32A	#40	80	25.0	100
	#80	60	25.0	100
40A	#40	100	22.5	90
	#80	70	25.0	100
50A	#40	140	12.5	50
	#80	80	22.5	90
65A	#40	140	12.5	50
	#80	80	25.0	100
80A	#40	200	10.0	40
	#80	160	20.0	80
100A	#40	240	11.3	45
	#80	240	13.8	55
125A	#40	260	7.5	30
	#80	240	22.5	90
150A	#40	280	5.0	20
	#80	240	20.0	80

SIZE	Schedule	Low Pressure Test Plugs		
		Torque (N.m)	Working Pressure (kgf/cm ²)	Bursting Pressure (Kgf/cm ²)
25A	#40	30	2.0	6.0
	#80	25	2.0	6.0
32A	#40	40	2.7	8.0
	#80	35	3.0	9.0
40A	#40	50	2.0	6.0
	#80	45	2.3	7.0
50A	#40	80	3.0	9.0
	#80	60	3.0	9.0
65A	#40	140	2.0	6.0
	#80	120	2.0	6.0
80A	#40	200	2.0	6.0
	#80	180	2.3	7.0
100A	#40	240	1.5	4.5
	#80	220	1.5	4.5
125A	#40	260	1.3	4.0
	#80	240	1.5	4.5
150A	#40	280	1.2	3.5
	#80	280	1.2	3.5

❖ HYDRO Test plugs Reports for CPVC ❖

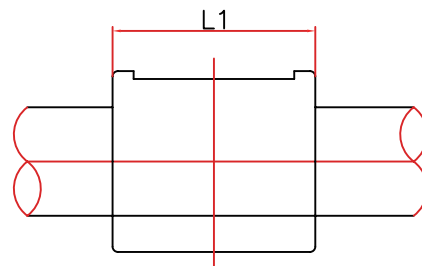
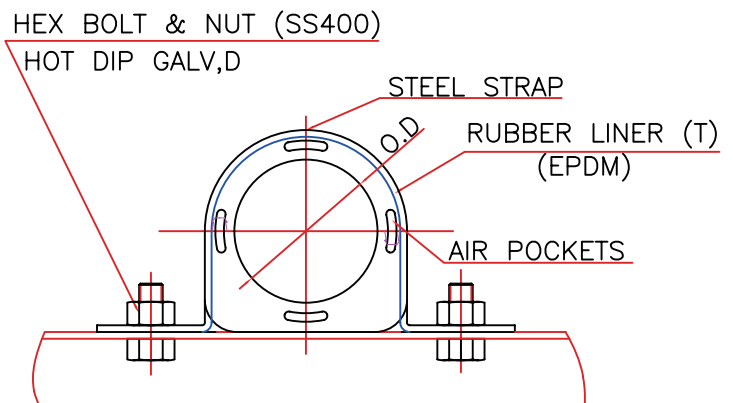
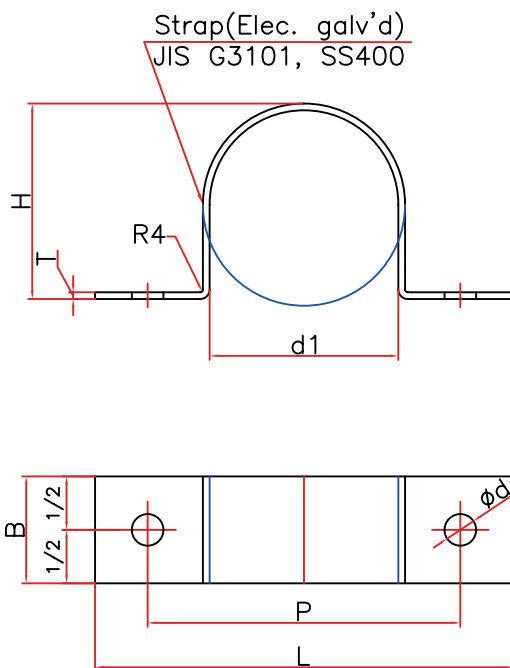
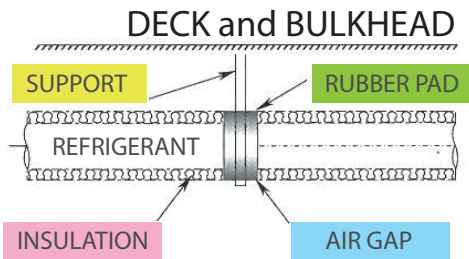
SIZE	Schedule	High Pressure Test Plugs		
		Torque (N.m)	Working Pressure (kgf/cm ²)	Bursting Pressure (Kgf/cm ²)
32A	#80	50	17.5	70
40A		60	17.5	70
50A		60	10.0	40
65A		70	7.5	30
80A		120	7.5	30
100A		150	7.5	30

SIZE	Schedule	Low Pressure Test Plugs		
		Torque (N.m)	Working Pressure (kgf/cm ²)	Bursting Pressure (Kgf/cm ²)
32A	#80	50	2.7	8.0
40A		60	2.7	8.0
50A		60	2.7	8.0
65A		80	2.5	7.5
80A		100	2.5	7.5
100A		140	1.7	5.0



3) RUBBER PAD & STEEL STRAP

Installing the RUBBER PAD



Purpose and Installation Methods of Using the RUBBER PAD & STRAP

It is a rubber pad product that solves the problem of frost on ships (new and repaired ships), refrigeration systems, and general refrigerant pipe parts used in the industry.

This product has very strong features such as ozone resistance, weather resistance, acid resistance, toxicity resistance, and is exceptionally good for the protection of refrigerant pipes. In addition, it is used for various purposes such as absorption of vibration and noise as well as the prevention of condensation. Therefore, it is very effective and economical on all pipes used for hot water, sewage, and gas.

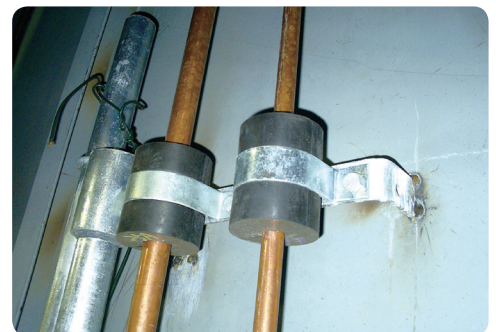
❖ Steel Strap for Copper Pipe Application : Refrigerant Pipe

SIZE TYPE	PIPE O.D	DIMENTION								HEX.BLOT		RUBBER (T)	REMARK
		L	P	H	d1	B	T	Φd	L1	N.D	LENGTH		
RS-10	10	141	111	68	66.5	32	3	12	60	M10	30	30	
RS-15	15	146	116	73	71.5	32	3	12	60	M10	30	30	
RS-20	20	151	121	78	76.5	32	3	12	60	M10	30	30	
RS-25	25	156	126	83	81.5	32	3	12	60	M10	30	30	
RS-30	30	161	131	88	86.5	32	3	12	60	M10	30	30	
RS-35	35	166	136	93	86.5	32	3	12	60	M10	30	30	
RS-45	45	176	146	103	101.5	32	3	12	60	M10	30	30	
RS-55	55	186	156	113	111.5	32	3	12	60	M10	30	30	
RS-70	70	201	171	128	126.5	32	3	12	60	M10	30	30	
RS-85	85	216	186	143	141.5	32	3	12	70	M10	30	30	
RS-110	110	241	211	168	166.5	32	3	12	70	M10	30	30	



❖ Steel Strap for Copper(CU-NI) Pipe Application : Refrigerant Pipe

SIZE TYPE	PIPE O.D	DIMENTION								HEX.BLOT		RUBBER (T)	REMARK	
		L	P	H	d1	B	T1	Φd	R	L1	N.D			LENGTH
RP-15	15.88	146	116	74	75.5	32	3	12	4	100	M10	30	30	
RP-25	22.23	153.2	123.2	81.2	82.7	32	3	12	4	100	M10	30	30	
RP-30	28.58	159.6	129.6	87.6	89.1	32	3	12	4	100	M10	30	30	
RP-35	34.93	166	136	94	95.5	32	3	12	4	100	M10	30	30	
RP-40	41.28	172.3	142.3	100.3	101.8	32	3	12	4	100	M10	30	30	
RP-50	53.98	185	155	113	114.5	32	3	12	4	100	M10	30	30	
RP-65	66.68	197.7	167.7	125.7	127.2	32	3	12	4	100	M10	30	30	
RP-80	79.38	210.4	180.4	138.4	139.9	32	3	12	4	100	M10	30	30	
RP-100	104.78	235.8	205.8	163.8	165.3	32	3	12	4	100	M10	30	30	
RP-125	130.18	261.2	231.2	189.2	190.7	32	3	12	4	100	M10	30	30	



❖ Steel Strap for Steel Pipe Application : Chilled water pipe

SIZE TYPE	PIPE O.D	DIMENTION								HEX.BLOT		RUBBER	
		L	P	H	d1	B	T	Φd	R	N.D	LENGTH	(T)	L1
CS-25	34.0	160	132	92	97	40	3.2	12	3	M10	30	30	60
CS-40	48.6	178	150	107	112	40	4.5	12	4	M10	30	30	60
CS-50	60.5	202	174	118	124	40	4.5	12	4	M10	30	30	60
CS-65	76.8	218	190	134	140	40	4.5	14	4	M12	30	30	90
CS-80	89.1	239	203	147	153	50	4.5	14	4	M12	30	30	90
CS-100	114.3	276	236	171	180	65	4.5	18	4	M16	30	30	90
CS-125	139.8	312	272	196	206	65	6.0	18	5	M16	30	30	90
CS-150	165.2	326	286	222	232	65	6.0	18	6	M16	30	30	90
CS-200	216.3	380	340	273	283	75	6.0	22	6	M20	30	30	100





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연구개발인증서

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