GLOAZURE

PIPE INSULATORS, END SEALS AND INNER-LINKS

GLOAZURE CO., LTD

www.gloazure.com

Fabricated Steel Insulator

GLOAZURE FABRICATED STEEL INSULATORS will safely support carrier pipes of any diameter in steel, cast iron or concrete casings and can, if required be designed to accurately centralize the pipe within the casings. The INSULATOR is fabricated from high grade 14 SWG gauge(2.0mm) steel and is either coated with high grade PVC to a thickness of approximately 15 mils(0.4mm) or zinc plated dependent upon customers requirement. Skids of high density polyethylene are used and these are solid injection moldings capable of withstanding in excess of 25 tonnes and temperatures of 120°C (250°F).

Each skid is fixed to the INSULATOR by two welded studs.
The skids will suit most types of applications and load requirement, and are available in two thicknesses, 19mm and 38mm.
When there is a large differential between carrier pipe and sleeve size, INSULATORS with skid resers are supplied to either accurately centralise
the pipe within the casing or radius to customers' requirements.
The skid riser is fabricated from 10 SWG(3.2mm) steel and has supporting gussets on 600mm carrier pipe and over.
INSULATORS provide triple electrical insulation between the carrier pipe and sleeve: plus

(a) Pipe Coating
(b) High duty plastic coating of all steel components (where applicable)
(c) Insulated skids.

GLOAZURE FABRICATED STEEL INSULATORS are available in any standard size up to 1050mm diameter and can be made to customers special requirements in greater diameters if required.
For easy and speed of installation the INSULATORS come in two semi-circular halves which are clamped together by zinc plated or galvanized bolts which are supplied with each INSUALTOR.

Plastic Insulators for Pipelines

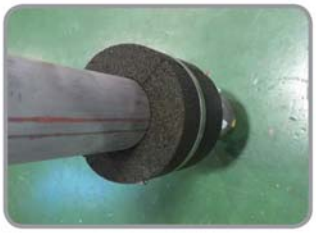
GLOAZURE INSULATORS made from high density polyethylene are universally applicable to the installation of pipelines when the carrier pipe runs inside a casing. For this comprehensive range of application the plastic insulators offer a number
of advantages such as

· very low coefficient of friction allowing it to slide easily inside casing;
· flexibility of material avoids damage to the protective coating and insulation of pipes;
· concentric support of the carrier pipe within the casing due to an extensive range of skid heights from 5/8"(16mm) to 3 9/16"(90mm).
· outstanding electrical properties of the material satisfy cathodic protection requirements.

GLOAZURE PLASTIC INSULATORS are available for every pipe size and with various skid heights for all pipe materials such as steel, cast iron, clay, asbestos cement, concrete or plastic pipes.

Special Type for High Temperatures

All insulators are available on request in a special version for high temperature ranges which are suitable for
· hot water pipelines
· steam pipelines



GLOAZURE PLASTIC INSUALTOR

Type GPA Plastic Insulators

Type GPA plastic insulators are available for pipe diameters upto 12"(300mm)
The GPA insulators consist of two segments. The necessary C.S or Stainless steel screws and nuts in nylon are available on request. The type code for the GPA insulators includes the data for pipe diameter in inches and the skid height in mm.
The maximum skid jeight is obtained by deducting the carrier pipe O.D from the casing pipe I.D., divided by 2; the actual dimensions must take into account the thickness of any coating on the carrier pipe.

Carrier pipe size (inch)	Pipe O.D Standard ASTM (mm)	Model	Skid height (mm)	Width (mm)	Number of segments	Number of skids	Bolt Number/ Size
0.75	26.7	GPA-0.75-16	16	75	2	4	4/M4X20
		GPA-0.75-24	24				
		GPA-0.75-36	36				
1	33.4	GPA-1-13	13	75	2	4	4/M4X20
		GPA-1-21	21				
		GPA-1-33	33				
1.5	48.3	GPA-1.5-21	21	83	2	4	4/M6X40
2	60.3	GPA-2-16	16	83	2	4	4/M6X40
3	88.9	GPA-3-25	25	83	2	4	4/M6X40
4	114.3	GPA-4-25	25	83	2	4	4/M6X40
5	141.3	GPA-5-25	25	83	2	4	4/M6X70
		GPA-5-36	36				
		GPA-5-55	55				
6	168.3	GPA-6-25	25	83	2	4	4/M6X70
		GPA-6-36	36				
		GPA-6-55	55				
8	219.1	GPA-8-25	25	127	2	4	4/M6X70
		GPA-8-36	36				
		GPA-8-55	55				
10	273.1	GPA-10-25	25	127	2	4	4/M6X70
		GPA-10-36	36				
		GPA-10-55	55				
12	323.9	GPA-12-25	25	127	2	4	4/M6X70
		GPA-12-36	36				
		GPA-12-55	55				

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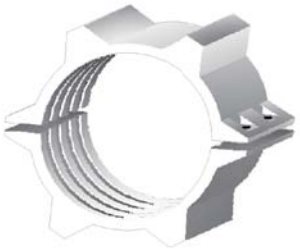

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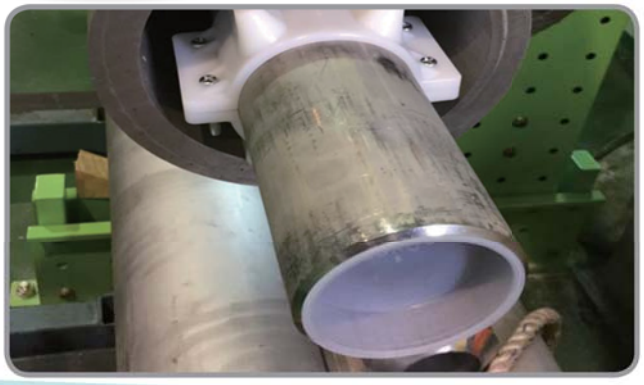

Type GMA Plastic Insulators

Insualtor type GMA are available to suit pipe diameters from 14"(350mm) to 50"(1270mm). GMA insulators are assembled from two basic segments(ref. GMA and GMA/2).
The necessary C.S or Stainless steel screws and nuts in nylon are available on request. Specially designed screws and nuts in nylon are available on request.

Carrier pipe size (inch)	Pipe O.D Standard ASTM (mm)	Model	Standard Skid height (mm)	Width (mm)	Number of segments	Number of skids	Bolt Number/ Size
14	355.6	GMA-14-25 GMA-14-36 GMA-14-50 GMA-14-65 GMA-14-75	36	155	3+1/2	7	8/M8X70
16	406.4	GMA-16-25 GMA-16-36 GMA-16-50 GMA-16-65 GMA-16-75	36	155	4	8	8/M8X70
18	457.2	GMA-18-25 GMA-18-36 GMA-18-50 GMA-18-65 GMA-18-75	36	155	4+1/2	9	10/M8X70
20	508.0	GMA-20-25 GMA-20-36 GMA-20-50 GMA-20-65 GMA-20-75	36	155	5	10	10/M8X70
22	558.8	GMA-22-25 GMA-22-36 GMA-22-50 GMA-22-65 GMA-22-75	36	155	5+1/2	11	12/M8X70
24	609.6	GMA-24-25 GMA-24-36 GMA-24-50 GMA-24-65 GMA-24-75	36	155	6	12	12/M8X70
26	660.4	GMA-26-25 GMA-26-36 GMA-26-50 GMA-26-65 GMA-26-75	36	155	6+1/2	13	14/M8X70
28	711.2	GMA-28-25 GMA-28-36 GMA-28-50 GMA-28-65 GMA-28-75	36	155	7	14	14/M8X70
30	762.0	GMA-30-25 GMA-30-36 GMA-30-50 GMA-30-65 GMA-30-75	36	155	7+1/2	15	16/M8X70

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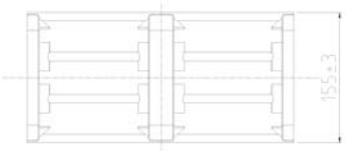

Type GMA Plastic Insulators

Carrier pipe size (inch)	Pipe O.D Standard ASTM (mm)	Model	Standard Skid height (mm)	Width (mm)	Number of segments	Number of skids	Bolt Number/ Size
32	812.8	GMA-32-25 GMA-32-36 GMA-32-50 GMA-32-65 GMA-32-75	36	155	8	16	16/M8X70
34	863.6	GMA-34-25 GMA-34-36 GMA-34-50 GMA-34-65 GMA-34-75	36	155	8+1/2	17	18/M8X70
36	914.4	GMA-36-25 GMA-36-36 GMA-36-50 GMA-36-65 GMA-36-75	36	155	9	18	18/M8X70
38	965.2	GMA-38-25 GMA-38-36 GMA-38-50 GMA-38-65 GMA-38-75	36	155	9+1/2	19	20/M8X70
40	1016.0	GMA-40-25 GMA-40-36 GMA-40-50 GMA-40-65 GMA-40-75	36	155	10	20	20/M8X70
42	1066.8	GMA-42-25 GMA-42-36 GMA-42-50 GMA-42-65 GMA-42-75	36	155	10+1/2	21	22/M8X70
44	1117.6	GMA-44-25 GMA-44-36 GMA-44-50 GMA-44-65 GMA-44-75	36	155	11	22	22/M8X70
46	1168.4	GMA-46-25 GMA-46-36 GMA-46-50 GMA-46-65 GMA-46-75	36	155	11+1/2	23	24/M8X70
48	1219.2	GMA-48-25 GMA-48-36 GMA-48-50 GMA-48-65 GMA-48-75	36	155	12	24	24/M8X70
50	1270.0	GMA-50-25 GMA-50-36 GMA-50-50 GMA-50-65 GMA-50-75	36	155	12+1/2	25	26/M8X70

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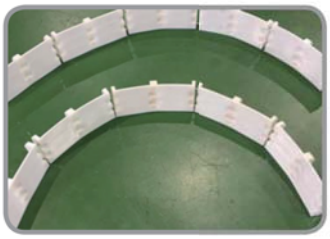

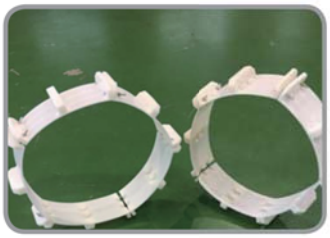

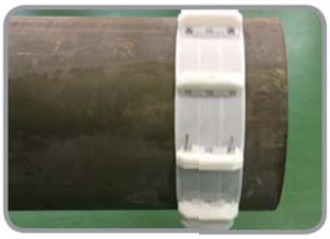

Type RGMA Plastic Insulators

Carrier pipe size (inch)	Pipe O.D Standard ASTM (mm)	Model	Standard Skid height (mm)	Width (mm)	Number of segments	Number of skids	Bolt Number/ Size
52	1320.8	RGMA-52-36	36	210	13	26	26/M8X90
		RGMA-52-50					
		RGMA-52-75					
54	1371.6	RGMA-54-36	36	210	13	26	26/M8X90
		RGMA-54-50					
		RGMA-54-75					
56	1422.4	RGMA-56-36	36	210	14	28	28/M8X90
		RGMA-56-50					
		RGMA-56-75					
58	1473.2	RGMA-58-36	36	210	14	28	28/M8X90
		RGMA-58-50					
		RGMA-58-75					
60	1524.0	RGMA-60-36	36	210	15	30	30/M8X90
		RGMA-60-50					
		RGMA-60-75					
62	1574.8	RGMA-62-36	36	210	15	30	30/M8X90
		RGMA-62-50					
		RGMA-62-75					
64	1625.6	RGMA-64-36	36	210	16	32	32/M8X90
		RGMA-64-50					
		RGMA-64-75					
66	1676.4	RGMA-66-36	36	210	16	32	32/M8X90
		RGMA-66-50					
		RGMA-66-75					
68	1727.2	RGMA-68-36	36	210	17	34	34/M8X90
		RGMA-68-50					
		RGMA-68-75					
70	1778.0	RGMA-70-36	36	210	17	34	34/M8X90
		RGMA-70-50					
		RGMA-70-75					
72	1828.8	RGMA-72-36	36	210	18	36	36/M8X90
		RGMA-72-50					
		RGMA-72-75					
74	1879.6	RGMA-74-36	36	210	18	36	36/M8X90
		RGMA-74-50					
		RGMA-74-75					
76	1930.4	RGMA-76-36	36	210	19	38	38/M8X90
		RGMA-76-50					
		RGMA-76-75					
78	1981.2	RGMA-78-36	36	210	19	38	38/M8X90
		RGMA-78-50					
		RGMA-78-75					
80	2032.0	RGMA-80-36	36	210	20	40	40/M8X90
		RGMA-80-50					
		RGMA-80-75					

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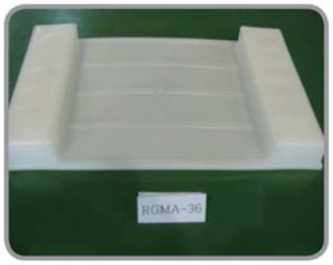

Casing End Seal

The use of Casing End Seals is generally required for the installation of gas, oil or water pipelines for sealing the annular space between sleeve carrier and casing
They are not suitable, however, in cases where water exerts pressure.
We would then recommend the use of Link Seals instead
The Casing End Seals are easy and quick to install. clamps.
They are placed on the exterior side of the carrier and the casing, then fixed by stainless steel bands and
A screwdriver is the only tool needed.
Our Casing End Seals are made from Neoprene, EPDM, Silicon, Fire Resustant Fiber etc, which is the most suitable material for manufacture. It has excellent physical properties, an optimal ageing resistance and chemical resistance, even at low temperatures.

GDU Type

Image

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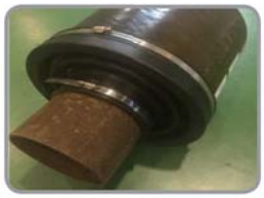


Model GDU

Model GDU Standard Pull On are moulded EPDM Casing
They are exclusively used for new installations.

Material: EPDM (Ethylene Propylene Diene Monomer)
Thickness: about 5 to 6mm
Shore-A : 72.0 [ASTM D1415]
Tensile : Min.125(psi) Ultimate : Min. 350 % [ASTM D 412]
Strap material: stainless steel [ASTM D412]

GDU Type End Seal Order Form

Dimension[inch]	Model	Dimension	Model	Dimension	Model	Dimension	Model
2 X 8	DU-0208	14 X 20	DU-1420	26 X 32	DU-2632	38 X 44	DU-3844
4 X 10	DU-0410	16 X 22	DU-1622	28 X 34	DU-2834	40 X 46	DU-4046
6 X 12	DU-0612	18 X 24	DU-1824	30 X 36	DU-3036	42 X 48	DU-4248
8 X 14	DU-0814	20 X 26	DU-2026	32 X 38	DU-3238	44 X 50	DU-4450
10 X 16	DU-1016	22 X 28	DU-2228	34 X 40	DU-3440	46 X 52	DU-4652
12 X 18	DU-1218	24 X 30	DU-2430	36 X 42	DU-3642	48 X 54	DU-4854

For sizes not available in GDU types, we recommend the use of a GKO end seal.

GKO Type

Model GKO type

Model GKO made from CR or EPDM are fabricated Wrap Around Casing End Seals for the use of pipes installed prior to installation of Casing End Seal.
This Casing End Seal is closed with a rubber solution, supplied separately in addition to the stainless steel banding. The design and material of the Model GKO version is similar to the Model GKG.
The GKO, however, is a fabricated Wrap Around Casing End Seal for use on pipes which were installed prior to the fitting of the Casing End Seal.
In addition to the stainless steel banding, the Model KO seal is sealed with a bounding agent(cold vulcanization), which is simial to type puncture repair.
The bonding agent is included in the price.

Material: EPDM (Ethylene Propylene Diene Monomer) or CR(Neoprene)
Thickness: 3.2mm
Shore-A : 65.0 [ASTM D1415]
Tensile : Min.125~870(psi) [ASTM D1415] [ASTM D 412]
Ultimate : Min. 350~372 % [ASTM D412]
Strap material: stainless(304) steel

GKO Type End Seal Order Form

Customiged sizes can be produced.

Image

Picture

GRO Type

Model GRO

Model GRO Standard Pull On are moulded EPDM Casing
They are exclusively used for new installations.

Material: EPDM (Ethylene Propylene Diene Monomer)
Thickness: about 5 to 6mm
Shore-A : 72.0 [ASTM D1415]
Tensile : Min.125(psi) Ultimate : Min. 350 % [ASTM D 412]
Strap material: stainless steel [ASTM D412]

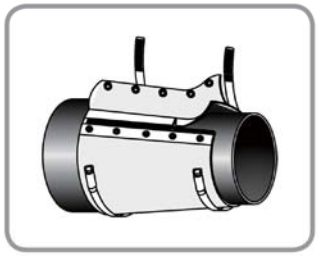
GRO Type End Seal Order Form

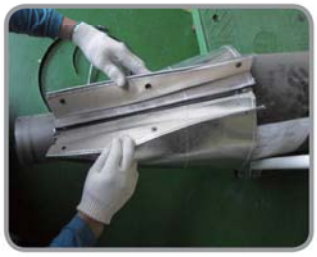
Model	Dimension[inch]			Dimension[mm]			Pipe size		Remark
	Size1	Size2	Size3	Size1	Size2	Size3	Casing Pipe	Carrier Pipe	
GR-110-140	5	4	0.5	140	110	20	5" or 4"	4"~0.5"	
GR-165-219	8	6	1	219	165	30	8" or 6"	6"~1"	
GR-270-324	12	10	2	324	270	60	12" or 10"	10"~2"	
GR-350-404	16	14	3	404	350	80	16" or 14"	14"~3"	
GR-508-610	24	20	6	610	508	160	24" or 20"	20"~6"	

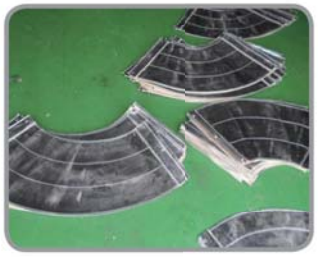
GSO Type

It is made from materials which is suitable for high temperature shch as Fiberglass Cloth with zipper type with stainless steel banding or hook-uo or plated snap etc.

Various materials such as Aluminum, Neoprene, Latex etc can be be coated dependin on customer's requirements and fluid services.







GHO Type

It is made of heat shrinkable sleeve materials and it is suitable to tight sealing between Carrier and Sleeve pipe.

INNER-LINK

Our INNERLINK (other name is LINK SEAL) is used for seal between pipes penetrating through walls, floors, tanks, pipeline casings etc. Besides sealing and it helps absorb vibrations, shocks, sound and etc. INNERLINK electrically insulates the inner carrier pipe from the penetrated structure and non-conductive from heat as well. INNERLINK can be installed easily and quickly by one worker with no special tools required.

Material and Sizes

INNERLINK is made from synthetic rubber and materials will be selected depending on applications. Our standard nuts and bolts have an anti-corrosive coating or stainless steel bolts are also available upon request. Various different sizes are available for most pipe sizes with diameters from 1/2" to 100". Custom sizes can also be made upon request. Detail information about sizes are available upon request after order placement.

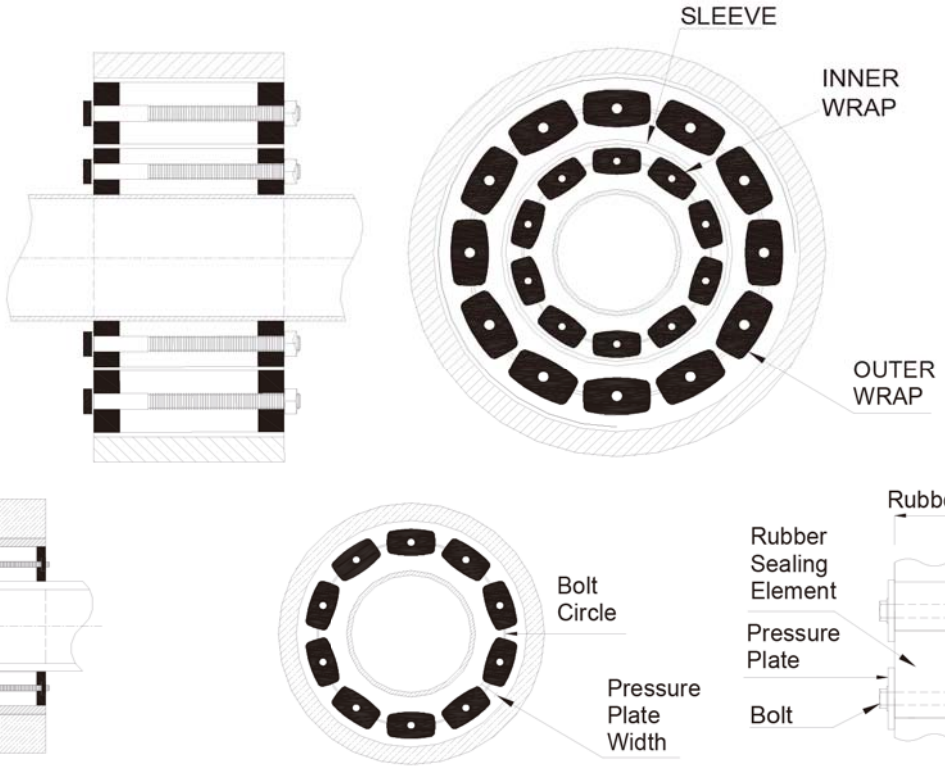
Wall Sleeves

Gloazure offers wall sleeves. Standard sleeve is made of steel and other materials are available. The applications of INNERLINK Seals and wall sleeves:

Picture

Hazardous or non-hazardous fluids transmission
Pipelines Buildings
Power generating plants
Water plants
Waste treatment plants Offshore platforms
Compressor stations Road crossings
Wall Penetrations
Fire protection piping Discharge lines from tank
etc Electrical conduit
Instrument lines

Dimension and Designation



INNERLINK Model No.	RUBBER SEALING ELEMENT			PRESSURE PLATE			BOLT		Min. WALL Thickness	WEIGHT BY PIECE (LBS) appx.
	Actual Thickness	Width	Chord Length	Width	Length	Depth	Thread Size	Length		
GIL200	0.50	1.80	1.15	0.45	1.14	0.32	10/32	2.50	2.25	0.05
GIL265	0.59	1.77	1.58	0.56	1.49	0.37	5mm	2.75	2.25	0.11
GIL275	0.63	1.80	0.89	0.63	0.90	0.35	10/32	2.50	2.25	0.10
GIL300	0.70	2.57	1.50	0.68	1.52	0.43	5/16	3.50	3.00	0.20
GIL310	0.65	2.40	2.22	0.63	2.00	0.50	6mm	3.50	3.00	0.22
GIL315	0.83	2.49	1.47	0.79	1.46	0.48	5/16	3.50	3.00	0.20
GIL325	0.95	3.04	3.15	0.81	2.87	0.94	5/16	5.00	4.00	0.60
GIL340	1.00	2.76	1.52	0.95	1.50	0.70	5/16	4.50	4.00	0.30
GIL360	1.23	2.80	2.08	1.12	2.10	0.76	5/16	4.50	4.00	0.50
GIL400	1.41	3.56	3.63	1.33	3.51	1.06	3/8	6.00	5.00	1.20
GIL410	1.41	3.38	2.62	1.42	2.52	0.87	3/8	5.50	5.00	0.80
GIL425	1.13	3.54	3.60	1.03	3.45	1.18	3/8	6.00	5.00	0.95
GIL440	1.73	3.36	3.94	1.52	3.54	0.96	10mm	6.00	5.00	1.47
GIL475	1.61	3.16	2.68	1.48	2.60	0.78	3/8	5.50	5.00	0.95
GIL500	2.39	3.90	3.90	2.17	3.72	1.04	1/2	6.00	5.00	2.15
GIL525	2.20	3.80	3.95	3.00	3.72	1.03	1/2	6.00	5.00	2.10
GIL575	1.81	3.78	3.16	1.79	3.01	1.00	1/2	6.00	5.00	1.60
GIL600	3.22	4.08	6.07	3.07	6.12	1.90	3/4	8.00	6.00	6.35
GIL625	3.27	4.02	4.09	3.08	3.93	1.18	12mm	7.00	5.50	3.27
GIL650	2.68	4.07	4.16	2.17	3.72	0.87	1/2	6.00	5.50	2.70
GIL700	3.70	3.98	6.02	3.58	5.85	1.12	12mm	7.00	5.50	5.26

* All dimensions are in inchs.

Ordering information

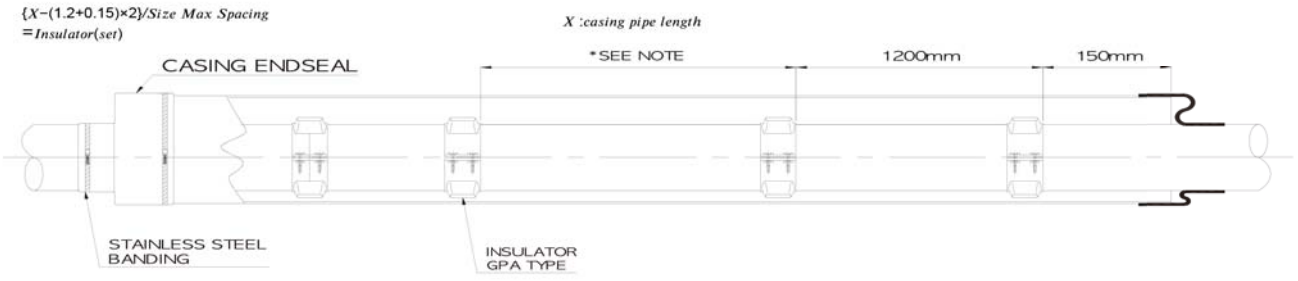
INSULATORS Example

F	1	6	36	C.S
Fabricated Steel Insulators	GPA	6"	SKID	C.S with GAL'V BOLT & NUT
⬇	⬇	⬇	⬇	⬇
MATERIAL	**INSULATOR TYPE**	**SIZE**	**SKID**	**CONNECTION**
F : Fabricated Steel Insulators P : Plastic Insulators S : Special Type	1 : GPA 2 : GMA 3 : RGMA	0.75"~	See catalogue information	C.S : C.S with GAL'V BOLT & NUT 304:304 BOLT&NUT

END SEAL Example

E	1	02	08	
END SEAL	GDU	CARRIER PIPE 2"	CASING PIPE 8"	
⬇	⬇	⬇	⬇	⬇
ITEM	**TYPE**	**CARRIER PIPE SIZE**	**CASING PIPE SIZE**	**REMARK**
E : END SEAL	1 : GDU 2 : GKO 3 : GRO 4 : GSO 5 : GHO	See catalogue information	See catalogue information	

INSULATOR QUANTITY CALCULATED



As a general rule the following spacing is recommended;

pipe dia up to 12" (300mm)	max. 3m(10')
pipe dia from 14" (350mm) to 24" (600mm)	max. 2m(7')
pipe dia from 26" (650mm) and larger	max. 1.5m(5')
For plastic pipes, spacing should be reduced to max. 1.5m (5').	

always install one insulator or cradle within 15cm (6") of each and of any casing, regardless of size of casing and carrier pipe or type of insulator used.
The above spacings apply to conventional pipelines. An exact determination of spacing depends on the following factors; pipe dia/pipe wall thickness/medium (gas or liquid)/temperature/coefficient of friction on casing material/length of casing.
All insulators regadless of the type or size, must be securely fastened around the pipe.
All GLOAZURE INSULATORS are supplied complete with the necessary fixing screws and nuts.

GLOAZURE

Client

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