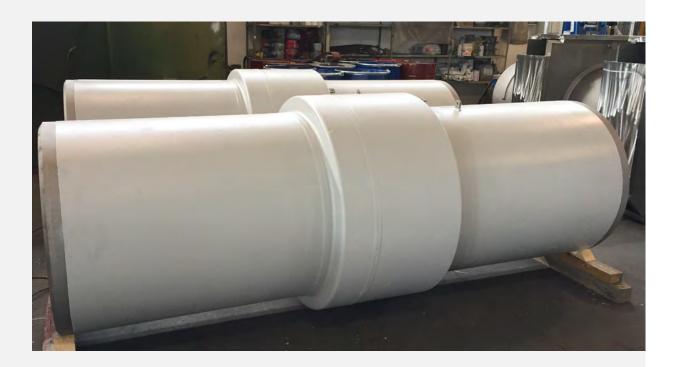


MONOLITHIC
ISOLATION JOINTS
& SPECIAL PIPELINE
ACCESSORIES



ERAM Technologies Detail

ERAM in Latin means I was, hence the essence of working matter and transforming it into technology to serve man and the environment. After over 30 years of experience in designing technology components in the Oil & Gas industry, the choice of creating a new company to provide design and construction expertise for the proposed products.



ERAM Technologies Team

Our team is made up of professional people that are always capable to assist and give Customers the best solution for their needs. A single partner able to assist you in a timely manner and that never leaves you alone, to which you can contact for any needs. We are Italian and the passion we put into our job is the same we have inside of our heart.









Passion to our job and to the customer always comes first

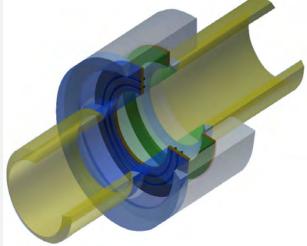
ERAM Technologies rooted strongly in the Oil & Gas and petrochemical sector, produce and supply Monolithic Isolation Joints for both onshore and offshore projects. Saving in the overall cost of corrosion control system is just one of the benefits of using Monolithic Isolation Joints. Monolithic Isolation Joints are used worldwide for permanently controlling the flow of electrical currents or electrically isolating pipe sections in pipes and piping systems. Effective management of cathodic protection programs results from the use of these highly reliable substitutes for flange isolating gasket kits system.

Other benefits include protection against earthing currents at domestic and industrial premises, isolation of pipeline cathodic protection system and to ensure that cathodic protection or stray currents do not cause increased corrosion.

ERAM Technologies Monolithic Isolation Joints are designed to meet and satisfy very high pressure services up to 20,000 psi. Upon request, we can supply Monolithic Isolation Joints according to Project specification.











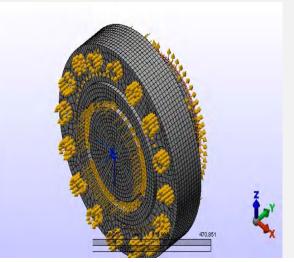
Design and Fabrication of Pipelines Components

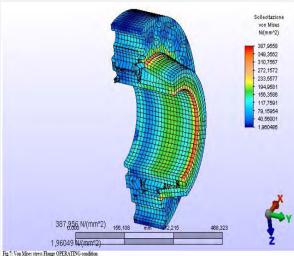
ERAM Technologies supply Monolithic Isolation
Joints (MIJ) in Carbon Steel, Stainless Steel, Duplex
and Super Duplex Stainless Steel, for various services
Fluid, range of temperatures and pressures, suitable for
above and underground Installation in full
compliance to NACE RP 02-86 for Cathodic Protection
Pipeline. Our products (MIJ) are designed
according with ASME B31 series, ASME VIII Div. I/II,
EN 13445, and other Statuary Codes. Our products are
tested into laboratories as per our customers project
Specification requests.

ERAM Technologies also supply Anchor Flanges type Welding Neck (WN) e Slip On (SO), Socket Weld (SW), and special shape as per customers drawings. We supply also Swivel Flanges and Spectacle Blind (Disck and Spacer) for piping system. Our Anchor Flanges, Swivel Flanges and Spectacle blinds are Designed according ASME VIII Div. I/II available into all ANSI and API classe; Carbon Steel, Stainless Steel, Duplex, Super Duplex Stainless Steel, and other available materials.

ERAM Technologies is able to supply Special Pipeline accessories, and we are in progress to design new cutting-edge solutions to protect the environment.











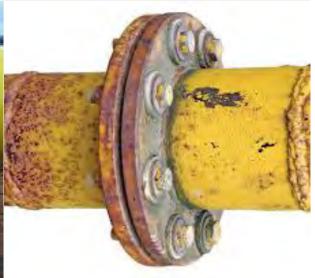
Advantages of MIJs vs. Flange Isolating Gasket Kits

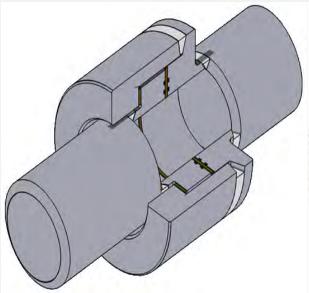
Worldwide people consider flange isolating gasket kits more cost efficient than Monolithic Isolation Joints. Infact flange isolating gasket kits are cheaper then Monolithic Isolation Joints but only when Companies purchase them without considering all the variables. Materials replacement, installation on field, inspection on field and periodic maintenance. Considering the replacement of various components of the kit since they will deteriorated in short time, the Monolithic Isolation Joint is the most convenient and effective product for the cathodic protection of the pipelines.

Advantages & Benefits

- No loss of integrity
- Maintenance-free
- Extreme bending and torsional resistance
- Earthquake resistant
- Prefabricated, tested in factory & ready to install (do not need field assembly)
- Fully welded component
- Coated both internally and externally
- No labor intensive required as for flange isolating gasket Kits





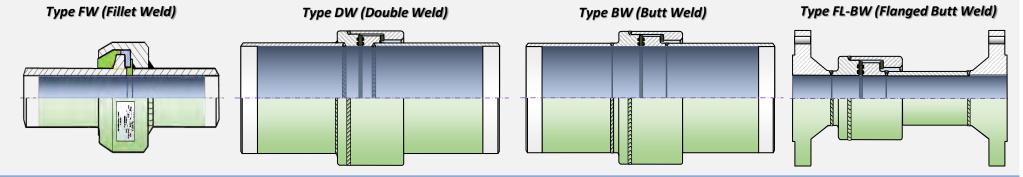








STANDARD DESIGN CONSTRUCTION							Basic Parameters of Monolithic Isolation Joints						
Class 150				Class 300			Class 600				Certification	EN 10204 3.1 (EN 10204 3.2 if requested)	
			_									Design Code	ASME VIII D.I - ANSI B 31.8/4/3
DN (inch)	Wtk	Length	Type	DN (inch)	Wtk	Length	Type	DN (inch)	Wtk	Length	Type	Design Factor	0,2 to 0.72
DIA (IIICII)	(mm)	(mm)		DIN (IIICII)	(mm)	(mm)		DIN (IIICII)	(mm)	(mm)		Pipe Pups (ISO3183 - API 5L)	Carbon Steel All Grades + Low Alloy & Alloy
4"	3,38	250	FW	4"	3,38	250	FW	4"	3,38	250	FW		Steel + Duplex & Super Duplex
				'				'				Body Parts	ASTM / ASME / UNS / EN Materials
2"	3,91	300	FW	2"	3,91	300	FW	2"	5,54	350	FW	Double "OR" Gasket (BW & DW)	ERAM Technologies can use any kind of
3"	4,78	400	FW	3"	5,49	400	FW	3"	5,49	500	FW	Flat Gasket (FW)	"O"Ring or Flat Gasket depending on project
				J				J					for SOUR - NON-SOUR - TOXIC environment
4"	4,78	400	FW	4"	6,02	400	FW	4"	6,02	500	FW		requirements and special applications (NBR -
6"	5,56	500	FW	6"	7,11	500	FW	6"	7,11	600	FW		FKM - FEP-O-SEAL - ENERSEAL - KALREZ).
				-									
8"	6,35	500	FW	8"	8,18	500	FW	8"	8,18	600	FW	FLUIDS	Gas, Hydrocarbons, Oil, Chemical Fluids,
10"	6,35	700	DW (BW)	10"	8,74	700	DW (BW)	10"	9,27	700	DW (BW)		Water
												SERVICES	SOUR / NON SOUR /TOXIC /LETHAL
12"	6,35	700	DW (BW)	12"	9,52	700	DW (BW)	12"	9,52	700	DW (BW)	Insulator	Polycarbonate or NEMA G10/G11 - ASTM
14"	7,92	700	DW (BW)	14"	9,52	700	DW (BW)	14"	9,52	700	DW (BW)		D709 –Class H
											` ,	Resin Filler	Cold Cured Epoxy
16"	7,92	700	DW (BW)	16"	10,31	800	DW (BW)	16"	10,31	800	DW (BW)	Sealant	Silicon Neutral Low Module
18"	7,92	700	DW (BW)	18"	11,91	800	DW (BW)	18"	11,91	800	DW (BW)	Electric Insulation Resistance	>200 ΜΩ
								- 1				Dielectric Strenght Test	5 to max 12 kV (AC) / 50 Hz (1-5 min)
20"	7,92	800	DW (BW)	20"	11,91	800	DW (BW)	20"	11,91	800	DW (BW)	Hydrostatic Test	1,5 times Design Pressure (or as per Customer Specification)
24"	9,52	800	DW (BW)	24"	12,7	800	DW (BW)	24"	14,27	800	DW (BW)	Pneumatic Air Test	10 bar 10 Min., if required
0011		4000	DIA (DIA)	001				0011		4000	DIAL (DIAL)	Hydro-Fatigue Test (barg x	5 Cycles at 80% TP (or as per Customer
30"	9,52	1000	DW (BW)	30"	15,88	1000	DW (BW)	30"	15,88	1000	DW (BW)	cycles)	Specification), if required
36"	9,52	1100	DW (BW)	36"	19,05	1200	DW (BW)	36"	19,05	1200	DW (BW)	Internal / External Coating	Epoxyphenolic or Amine Cure Epoxy Resin.
40"		1100	DW (BW)	401		1200	DW (BW)	4011		1200		Litternar / Externar Coating	Depending on Project Specification, we can
40"	9,52	1100	DAA (BAA)	40"	20,62	1200	DAA (BAA)	40"	20,62	1200	DW (BW)		apply any required painting system
42"	9,52	1100	DW (BW)	42"	20,62	1200	DW (BW)	42"	20,62	1200	DW (BW)	NDE Pup Bevels	100% MT/UT - ASME V - ASME VIII
48"	12,7	1200	DW (BW)	48"	21.3	1300	DW (BW)	48"	24.2	1300	DW (BW)	NDE W3 Closure Weld	100% MT/UT - ASME V - ASME VIII
40	12,7	1200	DAA (DAA)	40	7-	1300	(אאם) אאם	40	21,3	1300	(אאם) אאם	NDE W1-W2 Butt Welds	100% MT/UT/RT- ASME V - ASME VIII
56"	14,3	1200	DW (BW)	56"	25,4	1400	DW (BW)	56"	28,6	1400	DW (BW)	Max Allowable Loads	up to 95% SMYS, if required
Makai						Additional tests available upon	HIC Test - SSC Test - Vacuum Test - 3% saline						
Note:	NOTP'							request	immersion Test - Pull Off Test - Adhesion				
- All abov	- All above mentioned information are indicative only and maybe changed as per Client requirement							ner Client		Test			
						•	PED Certification	Upon Request					
- Butt Weld Design Construction will be used only in case of X-ray requirement						nt	ATEX CE Certification	Upon Request					





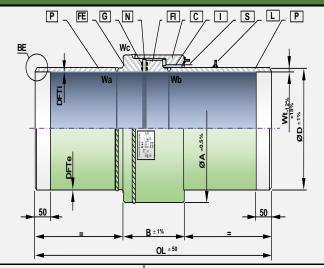


ISOLATING JOINT DATA SHEET

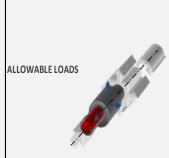


ADDITIONAL DESIGN DETAIL









Standard Total Design Load 50 % Pipe SMYS (Special Total Design Load 75 % Pipe SMYS) (Special Total Design Load 95 % Pipe SMYS) (Special Total Design Load 100 % Pipe SMYS)

Document Ref.:		SE
DESCRIPTION	NOTES	PIP
INSULATING JOINTS, Monolithic Type		QU
ASME B 31.3 - ASME B 31.4 - ASME B 31.38 - ASME VIII D.I a.2		NO
19 to 690		1)
Standard Application 0 to 90° - Special Application -173°C to 180°C		2)
150 to 2500 "ASA" - 3000 to 10000 "API"		3)
BUTT WELDED - API 5L / B16.25 / B16.5 / MSS SP75		4)
Standard Application 0.5 (Special Project Requirements 0.2 to 0.72)		5)
FO 1 - 0000 / 011 (- 00011	_	۵)

Project No.:

150 to 12000 (OVER 3000 INSULATION JOINT + EXTENSION PIPE)

50 to 3000 / 2" to 220"

3.9 to 152.4 / 0.154" to 6"

	MATERIAL	"P" PIPELINE	API 5L All Grade + low Alloy & Alloy Steel	2, 3
		"FI-FE-C" BODY PARTS	ASTM / ASME / UNS / EN Materials	2, 3
		"N" ISOLATING ELEMENTS	NEMA G10/G11 - ASTM D709	2
		"G" GASKET	Double "O" Ring ASTM D 2000 NBR or FKM	2
,		"S" BACK SEAL	Silicon Neutral Low Module	5
		"I" FILLER ISOLATOR	Epoxy Resin Cold Cured	5
		"L" CABLE LUGS M10	Carbon Steel	6
		"DFTi" INTERNAL COATING	Polyamine Epoxy Resin 70÷3000 microns	1, 2
		"DFTe" EXTERNAL COATING	Polyamine Epoxy Resin 70÷500 microns	1,5
	INSTALLATION	ABOVEGROUND / UNDERGROUND		
	HYDROSTATIC TEST	1.5 Times the Design Pressure or		
	DIELECTRIC TEST	1.5 to 5 KV @ 1 minute AC 50÷60 F		
	ELECTRIC INSULATION TEST	> 5,5 GΩ @ 1000 Volt DC (Special		
	NDE TEST	WA-WB-WC: MT & UT, Bevel Er		
	WELDS	WA-WB-WC: According To AS		
	CERTIFICATION	EN 10204 - 3.1 (EN 10204 - 3.2 if re		
	INSPECTION & TEST/ACCEPTANCE	Manufacturer Standard / Custome		
	SERVICE	YES or NO		
	CORROSION ALLOWANCE	As per Customer Requirements		
	SERVICE	Gas, Hydrocarbons, Oil, Chemical		
	PIPING CLASSE	As per Customer Requirements		
	QUANTITY	As per Customer Requirements		
	NATEO			

IOTES:

Page 1

Rev. 0

- A Length of 50 mm at each end shall be left uncoated to allow welding
- All pressure containing materials including steel parts, insulating materials, seal gaskets and internal coating are suitable for resistance to H2S environment
- All pressure containing steel parts shall be in strict accordance with NACE MR-0175/ISO 15156 (latest edition).
- This information is approximate. The exact value shall be checked and specified during the PO Stage
- Material not in contact to the fluid
- 6) Cables Lugs will be installed on Isolating Joint only if request from Cathodic Protection Requirements.



Project:

TYPE

DESIGN CODE

ENDS "BW"

DESIGN FACTOR

DESIGN PRESSURE (BarG)

DESIGN TEMPERATURE (°C)

RATING (ASME/ANSI#) Class

CONNECTION PIPE DN "D" (mm/in.)

CONNECTION PIPE THK "t" (mm/in.)

JOINT OVERALL LENGTH "OL"(mm)

ITEM



Machining, NDT, Welding, Assembling











































































Certification S Veritas \supset Ø O

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ERAM TECHNOLOGIES S.R.L.

Via Paraboschi 7 - 29010 GRAGNANO TREBBIENSE (PC) - Italy

Sede Oggetto di certificazione: Via Marcheselli, 9 - 29122 PIACENZA (PC) - Italy

Bureau Veritas Italia S.p.A. certifica che il sistema di gestione dell'organizzazione sopra indicata è stato valutato e giudicato conforme ai requisiti della norma di sistema di gestione seguente

ISO 9001:2015

Campo di applicazione

Progettazione e produzione di giunti isolanti monolitici e componenti speciali.

IAF: 17

Versione: 1

Data della certificazione originale:

06-Marzo-2019

Data di scadenza precedente ciclo di certificazione:

05-Marzo-2022

Data dell'Audit di certificazione / rinnovo:

11-Marzo-2022

Data d'inizio del presente ciclo di certificazione:

19-Aprile-2022

Soggetto al continuo e soddisfacente mantenimento del sistema di gestione. questo certificato è valido fino al:

05-Marzo-2025

Certificato Numero: IT314652

Data di emissione: 19-Aprile-2022

GIORGIO LANZAFAME - Local Technical Manager

SCO Nº 000A

Herefore diegli Jaconski di Hubusi Floromovimento ER, S regnatory of AM, AM and ESA: chusus Ascopratori Ag

Indirizzo dell'organismo di certificazione:

Bureau Veritas Italia S.p.A., Viale Monza, 347 - 20126 Milano, Italia

Ulteriori chiarimenti sul campo di applicazione di questo certificato e sui requisiti applicabili della norma del sistema di gestione possono essere attenuti consultando l'organizzazione.

Per controllare la validità di questo certificato fare doppio click sul QR CODE o scansionarlo con apposita App





BUREAU VERITAS

Certification

Veritas

Bureau

ERAM TECHNOLOGIES S.R.L.

Via Paraboschi 7 - 29010 GRAGNANO TREBBIENSE (PC) - Italy

Certified site:

Via Marcheselli, 9 - 29122 PIACENZA (PC) - Italy

Bureau Veritas Italia S.p.A. certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 9001:2015

Scope of certification

Design and production of monolithic insulating joints and special components.

IAF: 17

Original cycle start date:

Expiry date of previous cycle:

Certification / Recertification Audit date:

Certification / Recertification cycle start date:

Subject to the continued satisfactory operation of the organization's

Management System, this certificate expires on:

Certificate No.:

IT314652

Version:

Issue Date:

05-March-2025 19-April-2022

06-March-2019

05-March-2022

11-March-2022

19-April-2022

SCO Nº DOSA

GIORGIO LANZAFAME - Local Technical Manager

Certification body address:

Bureau Veritas Italia S.p.A., Viale Monza, 347 - 20126 Milano, Italia

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.

To check the validity of this certificate please double click or scan QR CODE











Where we are:

Legal Headquarter: Via Paraboschi N. 7 29010 Gragnano Trebbiense (PC) – ITALY Office Headquarter: Via Olaf Palme N. 41 41015 Nonantola (MO) - ITALY Operating Unit 1: Via Marcheselli N. 9 29122 Piacenza (PC) – ITALY Operating Unit 2: Via Emilia N. 39 43010 Fontevivo (PR) – ITALY

Website: www.eram-technologies.com Mail: sales@eram-technologies.com

