

MONOLITHIC INSULATING JOINTS

Barrier of Excellence for
Peak Pipeline Performance



GLOBAL PLAYER. LOCAL MANAGEMENT.

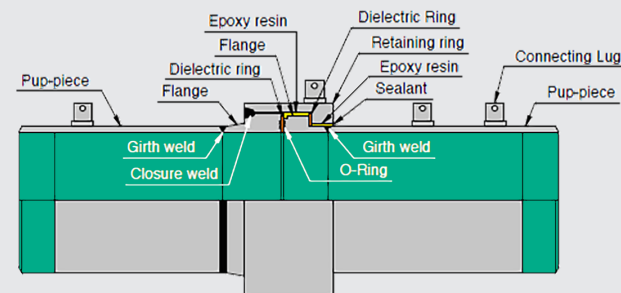
Australasian Fittings and Flanges (AFF), in collaboration with our manufacturing partner, Galperti Tech Forged Products (GTPF), specialise in the advanced manufacturing of Monolithic Insulating Joints (MIJs). Introducing the G-joint® an innovative solution meticulously engineered, manufactured and tested entirely in-house. Designed to electrically isolate sections of pipelines, the G-joint® stands as a cornerstone in safeguarding pipeline integrity, ensuring optimal efficiency for cathodic protection systems against corrosion.

MIJs are meticulously crafted for seamless integration within both underground and aboveground piping and pipeline systems. Through precision girth welding between pipeline sections, MIJs ensure uninterrupted flow while preserving the long-term integrity of the infrastructure. Constructed with fully encased components housed within forged steel bodies, MIJs exemplify unparalleled robustness and reliability.

With our commitment to quality and excellence, the G-joint® delivers unparalleled performance, durability, and peace of mind for your pipeline infrastructure.

Secure the future of your pipelines with the G-joint® - the epitome of innovation and reliability in pipeline insulation technology.

Contact us today to learn more about how the G-joint® can benefit your operations.



DATASHEET

DESIGN CODE	ASME VIII Div.1 - ASME B31.3/B31.4/B31.8
DESIGN FACTOR	0.6
SIZE RANGE	From 4" to 56"
PRESSURE RATING	From PN 20 to PN 420
ANSI CLASS	From #150 to #2500
DESIGN TEMPERATURE	From -46°C to +110°C
END CONNECTION	BW - Butt Weld
CORROSION ALLOWANCE	As per customer specification
EXTERNAL LOADS	Axial, Shear, Bending and Torsional as per customer specification
FINITE ELEMENTS ANALYSIS	Upon request
INSTALLATION	Aboveground/Underground/Subsea - Onshore/Offshore
SERVICES	Non-Sour/Sour/Toxic/Lethal
FLUIDS	Oil/Gas/Hydrocarbons/Chemical/Water
FORGED MATERIALS	Carbon steel, Alloy steel, Stainless steel. Duplex & Superduplex
PUP-PIECES MATERIALS	Carbon steel, Alloy steel, Stainless steel, Duplex & Superduplex
INSULATION MATERIAL	Epoxy glass according to ASTM D709, Type IV, Group G11
O-RING GASKET MATERIALS	Elastomers NBR or FKM according to ASTM D2000
FILLER MATERIAL	Two-components epoxy resin
SEALANT	Silicone
INTERNAL COATING	First layer: Epoxy Primer. Final layer: polyurethane top coat
EXTERNAL COATING	First layer: Epoxy Primer. Final layer: polyurethane top coat
WELDING PROCEDURES	According to ASME IX or ISO 15614
CERTIFICATIONS	EN 10204 3.1 (3.2 upon request)
MECHANICAL TESTS	Tensile. Impact and Hardness Tests (on forgings and pup-pieces)
NDT TESTS	VT, PT, MP, UT, RT (on forgings, pup-pieces and welds)
HYDROSTATIC TEST	1.5 times Design Pressure
DIELECTRIC STRENGTH TEST	3÷5 KV 50Hz AC for 1 minute
ELECTRICAL RESISTANCE TEST	>5 MW with 1 KV DC in dry condition
HYDRO-BENDING TEST	Upon request (on assembly) 75% SMYS pipe
TORSIONAL TEST	Upon request (on assembly) 5% SMYS pipe
HYDRO FATIGUE TEST	Upon request (on assembly)
PNEUMATIC AIR TEST	Upon request (on assembly)
VACUUM TEST	Upon request (on assembly)
PIGGABILITY TEST	Upon request (on assembly)
IMMERSION TEST (3% saline)	Upon request (on assembly)
HIC TEST	Upon request (on forgings and pup-pieces)
SSC TEST	Upon request (on forgings and pup-pieces)
CTOD TEST	Upon request (on forgings and pup-pieces)
ADHESION TEST	Upon request (on coating)
HOLIDAY TEST	Upon request (on coating)
PED CERTIFICATION	Upon request
EXTRAS	Connection lugs and sparking gaps upon request

Note: Other options available upon request.

PURPOSE AND FUNCTION

Electrical Isolation: Monolithic Insulating Joints (MIJs) act as a critical electrical barrier between pipeline segments, blocking stray electrical currents and enhancing system integrity.

Corrosion Prevention: MIJs improve the performance of cathodic protection systems by effectively isolating pipeline sections, preventing corrosion across the network.

CONSTRUCTION AND DESIGN

Robust Materials: Constructed from forged steel, MIJs feature a single-piece isolation block, eliminating multiple components.

Seamless Design: Unlike traditional flanged joints, MIJs are free from bolts, nuts, gaskets, and flanges, reducing potential failure points.

Durable Encasement: The entire MIJ unit is encased in steel, ensuring high durability and protective strength under various environmental conditions.

INSTALLATION AND LOCATION

Placement: Typically installed aboveground, MIJs are strategically positioned immediately after the transition from above ground to below ground, ensuring optimal functionality.

Welding Integration: Each joint is girth welded directly between two sections of the pipeline, providing a secure and permanent connection.

ADVANTAGES

Enhanced Safety: By eliminating conductive components such as flanges and bolts, MIJs reduce the risk of short circuits, enhancing overall safety.

Ease of Installation: The absence of flanges and gaskets simplifies field assembly, minimising leakage risks and installation errors.

Cost Efficiency: Generally, MIJs are more economical compared to traditional insulated gasket flange assemblies, offering both initial cost savings and reduced maintenance expenses.

Our Strengths

Comprehensive Solutions: We offer a one-stop-shop for all product types, including pipes, fittings, and flanges, ensuring a seamless supply and service experience.

Beyond Supply: We're more than just a supplier; we provide ongoing solutions, advice, and recommendations to support the entire lifecycle of your plant.

Optimal Selection: We specialise in selecting the right products and materials to extend the life of your plant.

Rapid and Precise Service: Our response times are fast and accurate, ensuring your needs are met promptly.

World-Class Manufacturing: We source superior quality materials from globally renowned, ISO 9001 certified manufacturers with additional certifications like API6D, API 6DSS, CE, PED, etc.

Project Management Excellence: Our comprehensive project management includes order management, technical queries, documentation, expediting, and logistics.

Installation and Maintenance Expertise: We provide the right advice to guarantee correct installation, maintenance, and ongoing operational excellence.

Quality Assurance: Known across Australia for our high-quality products, backed by a thorough compliance review to meet strict specifications.



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