

MONOLITHIC INSULATING JOINTS

Barrier of Excellence for
Peak Pipeline Performance

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**GLOBAL PLAYER.
LOCAL MANAGEMENT.**

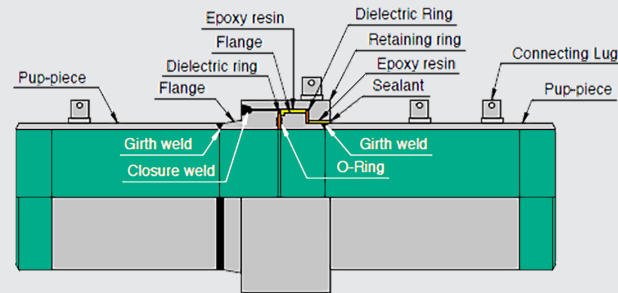
Australasian Fittings and Flanges (AFF), in collaboration with our manufacturing partner, Galperti Tech Forged Products (GTPF), specialise in the advanced manufacturing of Monolithic Insulating Joints (MIJs). Introducing the G-joint® an innovative solution meticulously engineered, manufactured and tested 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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