



# Global Hitech Solutions

*engineering support, solutions & supplies... to perfection*



- **Insulating Monolithic Joints**
- **Insulating Flange Assemblies**
- **Ferrous & Non-Ferrous Tubing & Fittings**
- **Expansion Joints**
- **Insulating Gasket Kits**

## INTRODUCTION:

Flange Insulation Gasket Kits are designed for preventing electrical conductivity between the flanges. The kit consists of one centrally located Insulating Gasket, one full length insulating sleeve per bolt, two insulating washer per bolt and two metal washer per bolt. They are commonly used as an insulator between dissimilar metal flanges as corrosion protection. These Insulating kits are used to isolate electrically one section of pipes in cathodic protection systems, to preventing the flow of stray current along the pipelines.



- **FULL FACE GASKET – TYPE E**
- **HHIGH PRESSURE INSULATION SEAL RTJ**
- **INSULATION GASKET – TYPE D**



## Flange Isolation Kits:

Flange isolation kits are available for all flange sizes, types, pressure ratings and materials. Each kit is individually and securely packed in a reinforced corrugated cardboard box, which is clearly labeled as to its contents for convenience in warehousing and field use. Very large diameter gaskets are packaged separately from the sleeves and washers for convenience in storing and handling.



## Sleeves and Washers:

Sleeves and washers are enclosed in a strong polyethylene bag to eliminate any possibility of loss. Tightening sequence shall be maintained for tightening bolts.

## High Pressure Seal Gasket:

It has been designed to operate in very critical service applications. The gasket is suitable for use in Full Face, IBC and RTJ flanges. It has universally acclaimed excellent dielectric properties and superior sealing characteristics. The gasket is suitable for all pressure ratings including ASME B16.5, ASME B16.47, API 6B and API 6BX flanges up to 20,000 psi.

## Fire Safe Isolation kit Gasket:

It has been designed to operate in very critical service applications. The gasket is designed to withstand during fire. This gasket passed the requirements of API 6FB. The specially made high temperature E-ring seal in addition to the regular high pressure seal. These gaskets are suitable for all type of flanges. It has universally acclaimed excellent dielectric properties and superior sealing characteristics.

ASME/ANSI B16.5	150 to 600 Ibs	0.5" to 24"	Dimensions matching to ASME B16.5 Flanges.
ASME B16.47 series A & Series B	150 to 600 Ibs	26" to 60"	Dimensions matching to ASME B16.47 Series A & B Flanges.
ASME B16.5	900 to 2500 Ibs	0.5" to 24"	Dimensions matching to ASME B16.5 Flanges.
API 6B & 6BX	720 to 20000 Ibs	1.5" to 30"	Dimensions matching to API 6B & API 6BX Flanges.
Non-Standard			All types and sizes

## FIRE SAFE INSULATION GASKET (FLOSIL CSGF)

## GASKET TYPE& MATERIALS:

GRE (G 10 & G 11) with Viton half 'O' Ring seal	Type – F & Type - E
GRE (G 10 & G 11) with PTFE seal	Type – F & Type - E
GRE (G 10 & G 11)	Type – D
GRE (G 10 & G 11) core with Spring energized PTFE seal	High Pressure Insulation seal for all sizes
GRE (G 10 & G 11) laminated Stainless Steel core with Spring energized PTFE seal	High Pressure Insulation seal for all sizes. Includes RTJ flanges.
PTFE laminated Stainless Steel core with Spring energized PTFE seal	High Pressure Insulation seal for all sizes. Includes RTJ flanges
Fire Safe seal with GRE (G 10 & G 11) laminated Stainless Steel core with Spring energized PTFE seal and E-ring seal.	Materials available on request.
<b>SLEEVE MATERIALS:</b>	
G 10, G 11, PTFE & Mylar	Available as per the requirement

Insulation gaskets kits are suitable from Cryogenic to 180°C normally. Fire safe gasket are designed for higher temperature, materials are available on request. Phenolic materials are available on request for low temperature and low pressure services. High tensile fasteners are available with insulation kit gasket on request with or without Hot Dip Galvanized / Xylan coating. All Standards And Non Standard Dimensions Of Insulation Kit Gasket Are Available. All Information Data Quoted In Technical Data Sheets Are Based On Years Of Experience In Production And Operation Of Sealing Elements. Contact our Technical Team for further information.

## TECHNICAL FACILITY

We have in house testing facility of Hydro-testing, Pneumatic testing, vacuum testing, Hydro-bend test rig, Electrical insulation testing, High voltage testing, Coating thickness gauge, measuring instruments are calibrated to national standards, physical/ chemical/ micro/ hardness test are carried by NABL approved lab.

## Insulating Monolithic Joints

Most of the world runs on pipelines. When we drive our vehicles, the fuel that we use will probably have passed under pressure through pipelines at some stage. The water that we drink likewise, just like the gas that we use to heat our food and these pipelines has monolithic insulating joints. This is because pipelines are subject to corrosion, just like any metal object that is exposed to the elements. Whether over ground, underwater or buried underground, pipelines need to be protected against damage from water and the air, as well as electric currents generated by lightning. Monolithic Isolating Joints that are used to provide electrical isolation and cathodic protections in pipeline, tanks and pumping station where petroleum gas & water are carrier fluids. In addition, these Monolithic Isolation Joints are also used to provide electrical sectioning and passive protection against corrosion on inlet and outlet pipes of meters, tanks and pumping station. The Monolithic Isolation Joints offered by us are manufactured using quality material and do not require any kind of maintenance. The usage of monolithic isolating devices in cathodically protected systems is considered by NACE SP0286-2007.



## ADVANTAGES OF MONOLITHIC JOINTS

Previously, oil and gas firms have often relied on less effective and required time bound maintenance using insulating flange kits. With the need to avoid industrial accidents and financial losses through leakages, it made sense to invest in the most efficient way to safeguard pipelines against insulating gasket kits.

SIZE	From ½" up to 100" and over
RATING	From ANSI 150 to ANSI 2500, API 10000 and over
END CONNECTIONS	Butt welded, WNRF, RF, RTJ or per Clients spec.

## MANUFACTURING CAPACITY :

We have state of art manufacturing facility to accommodate any volume and size ordered, to cater this we have 15000sq of factory premises and 8000sq workshop floor area with 2 nos of 5 Ton overhead cranes.

## Metallic Expansion Joints

The basic element of a Metallic Expansion Joint (MEJ) is the bellows - a flexible, corrugated tubular metal element to absorb movements in a piping system. In the operating environment the critical stresses and movements may act in axial, lateral or angular directions and the bellows must therefore be designed and dimensioned to accommodate these movements. Metallic Expansion Joints are broadly broken into Unrestrained Assemblies and Restrained Assemblies.



## Monolithic joints Technical specification

We offer monolithic joints in various piping grade, pressure class, design temp, corrosion allowance, testing requirement, joint length, electrical properties and coating thickness as per clients specification. Monolithic joints basic tech spec along with cross section view is as hereunder:

CERTIFICATION	EN 10204 3.1 or 3.2
NDT PUP Bevels	100% MT/UT/ASME V – ASME VIII
NDT W3 Closure Weld	100% MT/UT/ASME V – ASME VIII
NDT W1-W2 Butt Weld	100% RT/UT/ASME V – ASME VIII
Pneumatic Test	>2 Bar 10 Min
Hydrostatic test	At test Pressure or as per Customer requirements
Hydro- fatigue test	5 Cycles at 80% TP or as per Customer requirements
Insulation Resistance	>50M
Di-electric Strength Test	2 to 10 kv (AC) % 50Hz (1-5 min)
Design Code	ASME VIII D.I –ANSI B 31.8/4
Design Factor	0.2 to 0.6
Max allowable loads	up to 95% SMYS-Based On Customer requirements
Insulation	NEMA G10/G11 Thermo-setting Epoxy Composite
Internal Coating	>150 Micron
External Coating	>150 micron

## Compression Tube Fittings:

We specialize in the supply of high quality compression tube fittings, ball valves, needle valves and manifold valves for system engineering solutions. We believe that the products we manufacture and the engineering solutions we provide are part of the success of our customers and important in ensuring the safety of those who work with these components in high-risk environments. Safety in all work environments is our priority.

Our principal manufacturers produce, assemble and carry out rigorous quality checks on all products which include tube fittings, needle and ball valves, and instrumentation accessories. These components are used in a wide range of industries including oil and gas production and CNG (Compressed Natural Gas) mother stations, chemical and biochemical plants, bio-pharmaceutical, research and development, semi-conductor manufacturing and more.

