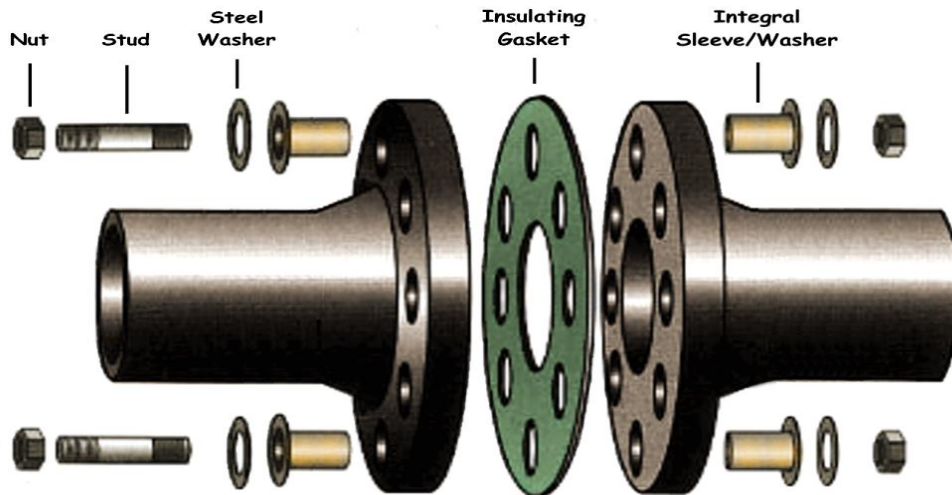




## The FPG Cathodic Uni-Set®



Flange Protection & Gaskets, Inc. would like to introduce you to our Cathodic Uni-Set®.

The Uni-Set® was developed by our engineering staff in conjunction with several pipeline companies. We use state-of-the-art materials to provide ease of installation, high dielectric strength and high heat resistance.

When FPG decided to manufacture the Uni-Set®, we compiled information from manufacturers across the country. Through this effort we discovered that very little had changed in the production of flange insulation kits in the last fifty years. It appeared as though other manufacturers simply copied the data, technology, and materials that were available from previous manufacturers. Even the sleeve lengths commonly used today are based on calculations made prior to the new ASME specifications. It is this type of disregard for the end-user that we as manufacturers wish to change.

With the old-style phenolic (i.e. Micarta®) insulation kit, the sleeves (when not cut to the proper length) are subject to stress-cracking as the flanges are mated and torqued. This cracking will result in shorting-out of the flanges. Also, mis-aligned flanges are difficult to mate.

The improvements that polyethylene and Mylar® sleeve materials contain in temperature and dielectric strength are lost in their lack of user-friendliness. Again, the sleeve must be cut to the exact length for proper insulation. Also, in the process of mating mis-aligned flanges, the stud may cut through these soft materials. Once again, this will result in a short-out.

## The FPG Cathodic Uni-Set®

We use either an aramid fiber, nitrile faced phenolic or **FPG-Seal®** phenolic gasket in our **Uni-Set®**. Phenolic is usually superior to aramid fiber in instances when line pressure exceeds 1500 PSIG. Therefore, aramid fiber (nitrile binder) is used as our standard gasket in 150# and 300# class (ASME) **Uni-Sets®**, while a nitrile faced phenolic or **FPG-Seal®** phenolic gasket is our standard for higher pressure ratings. The most common **FPG-Seal®** gasket materials are CE and G-10 phenolic retainers with a nitrile, Viton® or Teflon® sealing element.

Through an injection molding process we have unitized the insulating sleeve and washer. This process provides for ease of installation through fewer parts. Our integral sleeve/washers are manufactured from glass reinforced Zytel® nylon resin, often termed GRZ. Glass reinforced Zytel® provides strength, toughness, chemical resistance, heat resistance, high dielectric strength, stiffness and dimensional stability over a wide range of temperatures and humidities.

- The unitized sleeve assembly lengths are calculated using the new ASME specifications to ensure complete stud insulation.
- The unitized sleeve provides 635 volts per mil of dielectric strength.
- The operating temperature is 300°F maximum (continuous).
- Mis-aligned flanges are not a problem because a sleeve assembly is installed in both of the mating flanges.

An installation instruction sheet is included in each kit. This should allow for ease of installation and also answer any questions that field-level personnel may have.

We at Flange Protection & Gaskets, Inc. take pride in our products. We feel the **Uni-Set®** is the finest flange insulation kit available, and very competitive from a cost standpoint.

Any observations or comments you have are always appreciated. It is through this form of interaction that we develop quality products and valued relationships with our customers.