

LOCTITE*Adhesives for more
reliable assemblies***APPLICATION CASE HISTORY****No. 233**

Loctite® Black Max® 380 Outlasts Contact Cement and Silicone

After Years of Use, Vacuum Dryer Gasket Holds Seal

Situation:

The electric shop of a large potash mine was having problems sealing a vacuum dryer for rotor stator windings. The tank dries copper, cast iron and aluminum stator housings. It is sealed by a large 1" thick rubber gasket, with flange dimensions at 5' wide x 6'6" long. The vacuum dryer draws a vacuum of approximately 7.5 inches of mercury. First, mechanics tried traditional contact cement on the original gasket. They coated both surfaces, waited for the adhesive to get tacky and then adhered the rubber to the iron cast flange. When tested, it leaked immediately. Next, they tried black acetic-based RTV silicone. Although this method did not leak immediately, it only lasted for about one month, and they would have to do the procedure all over again. It usually took two mechanics one full working day to complete the job. This cost roughly \$640 in labor alone.

Solution:

Loctite Black Max 380 is a one-part, elastomer-modified adhesive that withstands high temperatures to 223°F, intermittent to 250°F. It provides excellent peel, impact and tensile shear strength, and bonds metal, rubber and plastics.

Maintenance personnel test bonded pieces of rubber and metal bonded with Black Max 380. Two days later substrate failure occurred on the test samples, but the Black Max was still holding.

Results:

After years of use, Black Max is still holding the rubber gasket in place with no leaks in sight. This is longer than the mechanics ever dreamed the gasket would hold. Total savings, including labor costs and rework costs, are \$937 per year. They now keep a bottle of Black Max handy in the shop for future applications.



Rubber gasket bonded in place with Loctite® Black Max®. It has sealed this vacuum dryer for over two years, outlasting contact cement & other silicones.

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