

## Oxidizers

Certain chemicals are known as strong oxidizers and, as such, will readily combine with organic compounds. We recommend our GYLON® material for use in oxidizers.

## Oxygen Service

We recommend GYLON® Styles 3502, 3505, 3503 and metal-inserted Styles 3562 and 3563. These gaskets are specially manufactured and packaged to eliminate contamination by organic material.

## pH

The pH scale is a measure of the acidity or alkalinity of a solution. A pH of 7 is a neutral reading; it is neither acidic or alkaline. Readings of 1-2 are strongly acidic, while 13-14 indicates a strong alkaline or caustic media.

**Note:** A pH reading alone without the names of the chemicals involved is not enough to select a gasket. Also, since the pH scale is quite limited in range, a reading of "1" or "14" does not fully describe the concentration. We need the concentration expressed as a percentage. For example, sodium hydroxide at a concentration of around 4% will "peg" the pH scale at 14, the same reading produced by a 40% concentration.

## Pressure Spikes

Very high pressure spikes can occur in any line pumping a liquid if a valve is closed rapidly, leaving the fluid flow nowhere to go. The inertia of the fluid may create extreme pressure spikes. These spikes occur too rapidly to be detected by a pressure gage but can cause a gasket to blow out.

## Radiation Resistance

We have conducted gamma radiation tests on our compressed sheet Styles 3000, 3200, 3400, 3700, 5500, 5507, 9800, 9850, 9920 and ST-706. These tests indicate our compressed non-asbestos styles will handle a total exposure of approximately  $5 \times 10^7$  rads of gamma radiation. GYLON® Styles 3510 and 3545 have been tested. Test results are available.

## Refrigerants

A number of new refrigerants have been introduced in an effort to protect the environment. CFC-type refrigerants, believed to be responsible for depleting the ozone layer, are being phased out and replaced by HCFCs and HFCs. Our most frequent compatibility inquiries concen-

trate on R-134a, R-123 and R-141b. Information provided by refrigerant manufacturers indicates Style 3300 will be preferred for R-134a and R-123. Styles 5500, 3000 and 3300 are recommended for R-141b. Refer to the Chemical Resistance chart for a complete listing of refrigerants. The compatibility of the lubricants used with these refrigerants should be considered.

## Reuse of Gaskets

We are frequently asked about reusing a gasket. We do not recommend this practice. A gasket's function is to conform to flange high and low spots when compressed, and its ability to reseal decreases after it is compressed. Gaskets which contain rubber and which have experienced elevated temperatures will be even less likely to reseal.

## Shelf Life

Garlock has spec sheets detailing proper storage conditions and expected shelf life for our products. Available upon request.

## Spacers in Flanges

Some installations require a very thick gasket to fill a large gap between flanges. We do not recommend stacking numerous gaskets in the same flange. In-house tests have shown that a better way to fill a 1/2" gap, for example, is to install a 1/16" gasket on each side of a 3/8" thick incompressible spacer ring. Ideally, the spacer ring will be consistent with piping metallurgy, serrated, and cut to the same dimensions as the gasket. We recommend higher minimum torques when using this arrangement.

## Steam

Steam can be found in plants in two forms: saturated and superheated. Saturated steam is standard boiler steam and has a definite temperature for each pressure. Superheated steam is steam at a higher temperature than is found on the saturated steam curve for that particular pressure. We recommend ST-706 and our GRAPH-LOCK® styles for superheated steam. Please be aware of the pressure and P x T limits for each style when making a selection, and consult with Garlock Engineering when approaching these limits. Also see notes on steam service found on fiber gasket specification pages.

## Thermal Conductivity

See F104 Line Callouts.