

## Gasket Factors

ASME VIII Pressure Vessel code *m* & *y* values for KLINGERSIL® compressed non-asbestos "C" grades

	<i>Thickness</i>	<i>m</i>	<i>y (psi)</i>
Sealing liquids	Up to 1/16"	2.75	2,000
	Above 1/16"	6.4	2,900
Sealing gases	Up to 1/16"	2.75	3,700
	Above 1/16"	6.4	5,000

The use of these values will not guarantee the performance of the gasket. Factors not in the control of the gasket material manufacturer can influence the operation of the gasket, and the *m* & *y* concept itself is being questioned as a valid design tool.

The PVRC and ASTM are actively working on replacing the current *m* & *y* values with new gasket factors that, if adopted, will be used for pressure vessel flange design. Although these factors have not yet been adopted, Thermoseal Inc. contracted with Ecole Polytechnique to run the necessary tests based on the current draft procedure required to determine the new factors which are designated  $G_b$ ,  $a$ ,  $G_s$  as follows:

	$G_b$ (psi)	$a$	$G_s$ (psi)
KLINGERSIL® C-4430	1377	0.220	3.4
KLINGERSIL® C-4433	255	.430	1.1
KLINGERSIL® C-4439	1566	0.304	0.5
KLINGERSIL® C-4500	1475	0.204	205
Thermoseal soft-chem®	504	0.284	$2.57 \times 10^{-5}$
KLINGERtop-chem® -2000	56	0.616	0.05843
KLINGERtop-chem® -2003	123	0.416	$4.82 \times 10^{-7}$
KLINGERtop-chem® -2006	1055	0.230	2.9
Sealex® Joint Sealant	700	0.249	2.1E+00

Although we are satisfied with the results performed by Ecole Polytechnique and the reduction of the data, we have no direct knowledge of these factors being used, and hence cannot commit to their appropriateness for gasket stress determination.

The ability of a gasket material to make and maintain a seal depends not only on the quality of the gasket material, but also on medium being sealed, the flange design, the amount of pressure applied to the gasket by the bolts and how the gasket is assembled into the flanges and tightened.

For product safety information, warranty and damage limitations, refer to the Material Safety Data Sheet (MSDS).