Teadit North America 905-C (Metalbest) and 942C/942 (Camprofile) "m" & "y" Values for ASME Code Calculations.

 We are often asked for the "m" and "y" design values of newer gasket products that are not directly covered by the ASME Code tables, such as our corrugated metal/flexible graphite faced gaskets, and serrated metal/flexible graphite faced gaskets.

The early industry accepted test procedure for these values was more suited for sheet materials rather than finished, narrow-profile gaskets, in our view. This procedure has since become obsolete and new methods are under consideration.

 This puts the gasket manufacturer in the position of defining the "m" & "y". Some manufacturers have taken the position that very low values can be used. This is likely due to the ability of flexible graphite or PTFE facings to seat at low gasket stresses. (It should be noted here that most "m" and "y" tests are run at ambient conditions). This may, in our opinion, have the result of flanges with lower available bolting and may encourage end-users to only lightly load the gasket, which (especially in heat exchangers or other cyclic applications) may not provide sufficient load to accommodate the long-term relaxation inherent in these gaskets.

It is Teadit North America's position to give designers the following min. "m" & "y" values for most 905-C (Metalbest) and 942-C/942 types commonly suggested for heat exchangers:

$$m = 3.75$$
$$y = 7,600 \text{ psi}$$

which are the same as defined for double jacketed gaskets. This is backed by a good history of replacing double jacketed gaskets with 905-C or 942-C gasket types (with appropriate design/installation considerations-contact Teadit), as well as user field data which indicates the in-service gasket stresses below which heat exchangers begin to leak. Using these higher m & y helps to assure that enough bolting is proportioned in the design to develop such field loading (Note: in actual service bolt loads are normally taken higher than the bolt design stress values).

Another acceptable method would be to use ambient test data for "m" and "y' factors, along with calculations (in addition to the ASME code calcs.) to assure the resulting design produces the gasket stress necessary when bolts are tightened for service. If such provisions are made (contact Teadit), for style 942/942C, the following "m" and "y" can be used (based in Teadit's own in-house ambient test method):

$$m = 4$$
$$y = 4,500 \text{ psi}$$

These numbers can also be used when evaluating necessary nubbin removal for existing exchanger that were originally designed for a double jacketed gasket (with the higher "y"), but is using a 905-C or 942-C as a replacement. In some cases, the lower "y" value is helpful in doing this and is backed by extensive experience in replacing jacketed gaskets in such designs.

Please contact Teadit's Technical Department for help with your specific applications.
2010 Rev.