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Special Interest Articles:

What Are M & Y Gasket Values?

Gasket designs are as critical, if not more critical, than all the other aspects of a pressure vessel. Gaskets manufacturers use M & Y values (gasket stress and load) to insure the designer is using the correct gasket materials and thickness. Here is a brief explanation of how M & Y values are determined.

A flange must be designed to create sufficient compressive load (usually expressed in stress, as PSI) on the gasket contact area to create an initial seal. The gasket must conform to the flange surface and must be compressed enough to seal off any internal voids or spaces. This stress is basically the "Y" value.

The "M" value allows the flange designer to determine the compressive load on the gasket required to maintain a seal when the vessel is pressurized. The flange must have sufficient strength and bolting to hold the joint together against the hydrostatic end force, and to apply some additional "net stress" on the gasket.

To determine the "M" factor, gasket manufacturers divide the "net stress" by the internal pressure to create the dimensionless "M" value as follows:

"M" Factor=$(W-F_{hyd})\div A_g \div P$

W=bolt loads lbs

F_{hyd}=hydrostatic end force

A_g=Gasket contact area (in^2)

P=internal pressure (psi)

The "Y" factor is calculated by using the following equation:

"Y" factor=$W\div A_g$

W= bolt load (psi)

A_g=Gasket contact area

The "Y" factor is the minimum compressive stress and is not meant to be a seating stress value for actual service. The "Y" value compresses the voids of the gasket, and conforms the gasket to the flange surface.

Choice of the gasket type is the obligation of the end user; the vessel manufacturer designs the flanges and bolting to sufficiently seal the joint against leaks.

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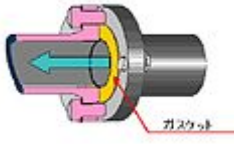
IN PRODUCTION:

Stainless Steel Jacketed Vessel

Shell for a 2,550 1" OD tube heat exchanger.



NON FERROUS SURCHARGE CHART

Stainless prices are mixed. Nickel prices are up for March and April and will drop in May. Remember, this chart is for surcharge only, it does not include the base price for materials.

Alloy	Jan	Feb	March	April	May	June	July	Aug	Sept
2205	0.7185	0.7195	0.7352	0	0	0	0	0	0
304 CLAD	0.3464	0.3398	0.3365	0	0	0	0	0	0
304/304L	0.6285	0.5995	0.5933	0	0	0	0	0	0
304H	0.6285	0.5955	0.5933	0	0	0	0	0	0
304LN	0.6285	0.5955	0.5933	0	0	0	0	0	0
304N	0.6285	0.5955	0.5933	0	0	0	0	0	0
309/309S/309H	0.8358	0.7776	0.7762	0	0	0	0	0	0
310/310S	1.124	1.0244	1.0223	0	0	0	0	0	0
316/316L	0.757	0.7235	0.7335	0	0	0	0	0	0
316LN	0.757	0.7235	0.7355	0	0	0	0	0	0
316Ti	0.7828	0.7461	0.7561	0	0	0	0	0	0
317/317L	0.8662	0.8317	0.8478	0	0	0	0	0	0
AL-6XN Plus	1.132	1.1611	1.2828	1.4162	1.3372	0	0	0	0
alloy 20	1.2687	1.3511	1.5248	1.6467	1.4871	0	0	0	0
AL-200 TM	2.6748	2.7167	3.1892	3.1192	2.5648	0	0	0	0
Al-400 TM	1.8828	1.913	2.3223	2.3123	1.9708	0	0	0	0
Al-600 Tm	2.1406	2.206	2.5506	2.6038	2.2021	0	0	0	0
Altemp 625	3.896	3.9472	4.219	4.344	4.0843	0	0	0	0
Alloy 276	3.225	3.2347	3.4967	3.5832	3.3826	0	0	0	0

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