General Principles for Fitting Nebar Gaskets

- The gasket should be smooth, clean, dry and free of any contamination, eg. dirt, oil or grease.
- The flanges should be clean, flat, dry, parallel, free from oil and grease and sufficiently rigid so that no significant distortion occurs during tightening of the bolts.
- There should be sufficient loading devices to apply the necessary compressive load without distorting the flanges.
- Do not use any liquid or paste sealing compounds, as they drastically reduce the friction between gasket and flange, reducing the sealing pressure and leading to premature leakage and failure.
- The gasket should be positioned centrally on the flange so that all sides receive the same tightening pressure.
- Do not use PSA or contact adhesive to hold the gasket in position for assembly purposes, as these can soften above approx. 40°c and have the same effect as liquid sealing compounds. A few drops of cyanoacrylate adhesive (Superglue) may be used if necessary.
- Tighten the bolts slowly, progressively and evenly all round the gasket, so that the whole gasket is compressed at the same rate. Never tighten one side before the other.
- Do not cut the gasket oversize on the internal dimension as the inside of the flange may cut into the gasket over a period of time and particles drop off into the medium being sealed.
- If at all possible, tighten the gasket by its recommended degree of compression, using some form of spacer as a control, rather than tightening by torque or 'feel'. For most medium stiffness gaskets the ideal degree of compression is 32% of the original thickness of the gasket. For instance a 6mm gasket would ideally be tightened down to 4mm. A tolerance of ± 5% can be placed on this, so that 27 - 37% compression will normally give the most reliable seal.
- Tightening by torque can be unreliable as it does not take variations in gasket stiffness or the condition and characteristics of flanges and bolting arrangements into account.
- Tightening by 'feel' with no mechanical control is the most unreliable method of all.
- Over-tightening can have two effects - bending of the flanges leading to leakage, and/or gross overcompression of the gasket causing breakdown of the structure.
  Under-tightening can lead to excessive loss of sealing stress and leakage over time.
- When gaskets have to be joined end to end, use a closely cut dovetail or keyhole joint for the most reliable seal.

Maintenance

- Nebar gaskets do not need any routine maintenance. Provided they have been correctly installed in a suitable application they should give long service without any problems.
- If slight seepage does occur after some period in service, the bolts can be carefully retightened by a small amount - just enough to stop the leakage. Care must be taken if the installation is warm, as the gasket will be softer and will more easily be over-compressed.
- If the flange assembly is being separated from the gasket for inspection or maintenance, a new gasket should always be installed.

Tiflex Limited
Tiflex House, Liskeard, Cornwall, PL14 4NB
Tel : +44 (0)1579 320808
E-mail : sales@tiflex.co.uk
Web : www.tiflex.co.uk

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