

# Assembly of SIGRAFLEX® Gasket Systems

Selecting suitable and properly matched components is essential to ensuring the reliable long-term performance of a sealed joint. But another aspect of equal importance to reliable plant operation and low leakage rates is the proper and correct assembly of the gasket. The following notes are intended to supplement the existing assembly instructions which are specific to individual plants.

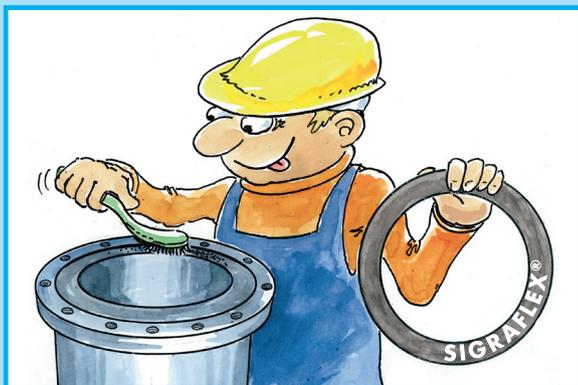
## Caution

When starting work on a sealed joint, it should always be borne in mind that residual amounts of service medium may be present inside the joint. Therefore, the bolt to be released first should be the one located farthest away from the operator. During this operation attention should be paid to the wind direction. Any service media escaping from the joint should be collected in suitable containers.

Care should always be taken to ensure that only specified equipment is used, that any joints with clear evidence of leakage are identified and that the respective pipework is secured properly. To dismantle the gaskets, a suitable tool should be used to avoid injuries by possibly sharp-edged metal reinforcements.

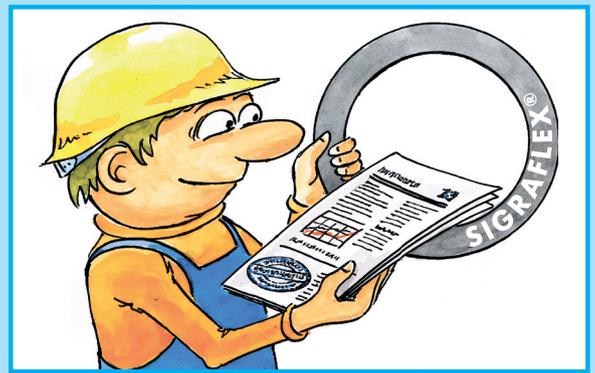
## Assembly of SIGRAFLEX gaskets

- Make sure that the sealing faces are clean, dry and free from grease. Remove any rust or other



deposits on the sealing faces by carefully brushing or scraping the surfaces in a circumferential direction. Give the bolts, nuts and washers a corresponding clean.

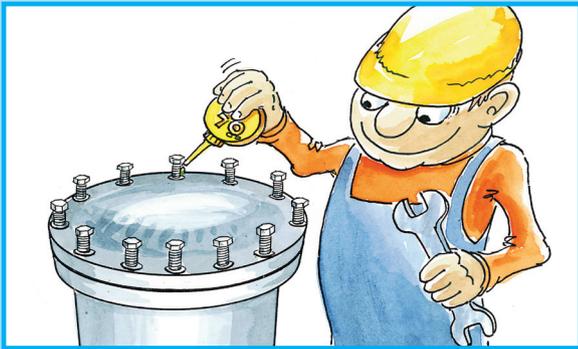
- Check the sealing faces for radial scratches, corrosion damage, warping or any other damage likely to prevent reliable sealing of the joint.
- Check the bolts, nuts and washers for any damage, burrs or cracks, and replace any damaged components.



- Make sure that both the gasket size and material comply with specifications.
- Ensure that the gasket is marked with the original SIGRAFLEX imprint.
- For assembly, use dry and undamaged gaskets only. Wet graphite gaskets must not be fitted unless first dried completely (e.g. in a drying chamber at 100 °C for three hours).
- Position the gasket centrally and avoid mechanical stresses during assembly. Use an assembly aid if necessary. Take particular care to ensure that the gasket is properly fitted in tongue-and-groove flanges.

Unlike gaskets made from other graphite materials only, SIGRAFLEX® HOCHDRUCK gaskets offer maximum protection against excessive compression in tongue-and-groove flanges.

- Never use release agents or grease! To facilitate assembly in difficult positions, the gasket may be held in place with a chloride-free adhesive. However, the adhesive should be applied sparingly at a few points only.
- Make sure that the bolts and the corresponding nut supporting faces are lubricated and turn freely. Use only specified and approved lubricants to lubricate threads, nuts and force-transmitting faces of the washers.



- Use a calibrated torque wrench or other suitable tool to ensure controlled tightening during assembly.
- Align the flanges as plane-parallel as possible.
- First hand-tighten the bolts, then use a wrench to tighten the bolts in crosswise order to about 50 % of the maximum torque value, in the second stage to about 80 % and to the full value in the third stage but not before.
- All bolts must be tightened to the specified bolt load, so check the torque repeatedly. Carry out a final visual inspection of the flanged joint to

confirm its proper assembly. Make sure that the gasket is fitted properly, i.e. that no gasket sections are squeezed out.

- Ensure that the bolts are tightened to not less than 50 % and not more than 100 % of the elastic limit. Request any recommendations on bolt retightening procedures either from the user's own technical division, from the gasket manufacturer or from our own technical service.
- During assembly, SIGRAFLEX gaskets can be compressed to about 50 to 60 % of the initial thickness: A 2 mm thick SIGRAFLEX HOCHDRUCK gasket, for instance, should be compressed to a residual thickness of about 1.2 to 1.4 mm.
- Once assembled, SIGRAFLEX gaskets do not usually need retightening. Recommendations on bolt retightening procedures should be requested either from the user's own technical division, from the gasket manufacturer or from our own technical service.



- For applications at more than about 450 °C, we recommend users to seek advice from either the gasket supplier or our technical service.

**High performance and safety  
in sealing systems**