

Operating pressures

Operating pressures listed can be achieved for the following base materials:

	Base material of the installation	Tensile strength Rm [N/mm²]	Elongation (min.) A5 [%]	Ultimate strength Rp0,2 [N/mm²]	Hardness HB
1	High strength steel ETG-100 / 44SMn28 AISI 1144	960 – 1000	6	min. 865	ca. 320
2	Case harden steel C15Pb / 1.0403 AISI 10L15	430 – 730	10	min. 280	ca. 200
3	Ductile cast iron EN 1363: GJS-600-3 ASTM A536: 80-60-03	min. 600	3	min. 370	200 – 290
4	Ductile cast iron (Dura-Bar®) EN 1563: GJS-450-10 ASTM A536: 65-45-12	ca. 450	12	ca. 310	131 – 217
5	Gray cast iron EN 1561: GJL-250 ASTM A48: NO.35	ca. 350	0,3	165 – 228	160 – 250
6	Aluminum-Alloy AlCu4Mg1 / EN AW-2024-T3 AA-2024 T4/T6 ¹⁾	min. 450	8	min. 310	ca. 120
7	Aluminum-Alloy AlMgSiPb / EN AW-6012-T6 AA-6012-T6	min. 310	8	min. 260	ca. 105.
8	Cast Aluminum-Alloy G-AlSi7Mg / EN AC-42100 ASTM/UNS: A356	min. 230	2	min. 190	min. 75

¹⁾ SFC KOENIG's North American Engineering Department utilizes 2024-T4/T6 as a test base material.

Applications

Equally high working pressures can also be achieved with base materials with similar mechanical properties. However, compliance must be met for the appropriate installation conditions.

Applications in cast aluminum, magnesium alloys, nonferrous metals and plastics require special consideration and can be developed upon request.

Applications in base materials with high hardness and hardened materials, require special consideration and can be developed upon request.

Applications in surface coated materials (zinc plated, anodized ...) require special consideration and can be developed upon request.

For factors affecting operating pressures please see:

- Anchoring principle
- Surface finish: Requirements
- Design guidelines

Safety margin

The safety margin includes uncontrollable factors. Dynamic loads at nominal pressure, with 10⁶ load cycles and a frequency of 3–4 Hz have shown that the subsequently measured bursting pressures, are reduced according to test A by 20% as well as test B.