



- Minimal play due to extremely small manufacturing tolerances of the guiding elements.
- Vibration absorption effect.
- Extreme wear resistance.
- Improved sliding properties due to surface structure.
- Can be elongated or compressed within limited diameter ranges (preferably ≥ 100 mm).
- Significantly higher permissible loading pressure compared with other guidance tape materials.
- Dimensions according to ISO 10766.
- Any desired nominal diameter available due to use of machining technique.
- Suitable for cylinder repairs.
- Ideally suited for large-diameters.
- Bulk material.
- Installation in closed and undercut housings.

FC guiding tapes are extremely wear-resistant and suitable for piston and rod guiding. They can be cut to any desired length (max. 5.5 m). The tapes are wound on flat coils with a core diameter of approximately 120 mm. FC guiding tape stock is sold in packaging units of 5.5-metre rolls (desired length to be cut by the customer).

Range of Application

Guiding element for pistons and piston rods in hydraulic cylinders.

Working temperature

FC Q5030T	-40 °C to +120 °C
FC Q5038T	-50 °C to +130 °C
in HFA, HFB and HFC fluids	-30 °C to +80 °C

Pressure resistance acc. to

EN ISO 604	270 N/mm ²
FC Q5030T	320 N/mm ²
FC Q5038T	

Water absorption acc. to DIN 53495 < 0.1 %

Surface speed ≤ 0.5 m/s

Compounds

Duroplastic synthetic resins with fabric reinforcement.

Q5030T: phenole resin-polyester fabric laminate. Colour: grey.

Q5038T: phenole resin-acrylic fabric laminate + PTFE. Colour: brown.

Installation

For piston and rod diameters up to 100 mm, we recommend our FR guide rings.

For surface requirements, see chapter "General installation guidelines".

The installed rings must have a gap "k" between their diagonally cut ends:

$$k = 0.008 \times d + 2$$

The calculated values for "k" are rounded up to the nearest millimetre.

The calculation of the permissible radial force is based on the projected area $D \cdot H$ (cylinder) or $d \cdot H$ (rod).

Example: permissible radial force F_R for a cylinder diameter of $D = 80$ mm, length $L = 15$ mm, compound Q5038T and safety factor 4:

$$F_R = \frac{D \cdot L \cdot q}{v} = \frac{80 \cdot 15 \cdot 320}{4} = 96\,000 \text{ N}$$

Recommendation for determining the safety factor v : $v > 3$

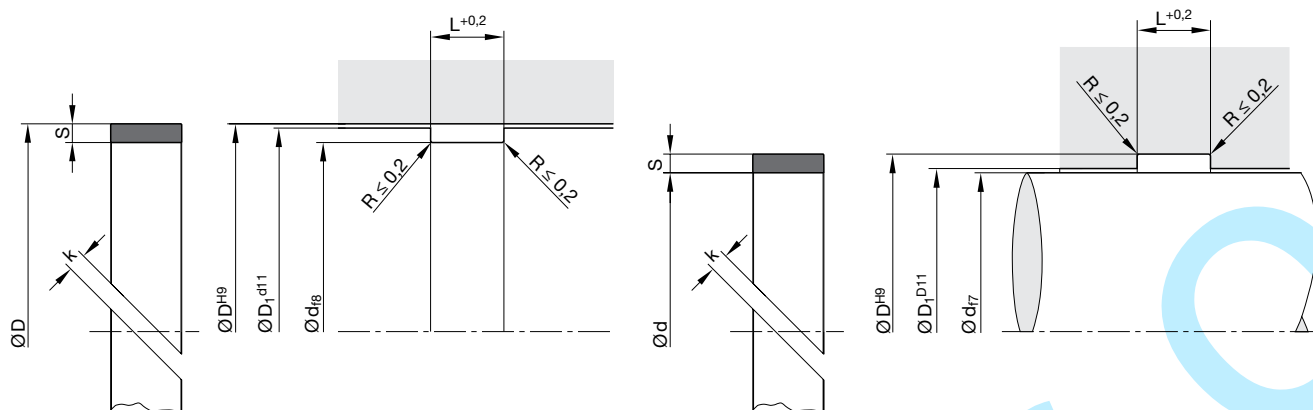
Calculation of elongated length

$$\text{"U" (piston)} = \pi \cdot (D - S) - k$$

Calculation of elongated length

$$\text{"U" (rod)} = \pi \cdot (d + S) - k$$

In case of special operating conditions (specific pressure loads, temperature, speed, use in water, HFA, HFB fluids etc.), please contact our consultancy service for a selection of the material and design best suiting your particular application requirements.



For surface finish, lead in chamfer and other installation dimensions see "General installation guidelines".

U	S	L	Order code
FC Q5030T			
5500	2.5	5.6	FC 2556 Q5030T
5500	2.5	9.7	FC 2597 Q5030T
5500	2.5	15	FC 2515 Q5030T
5500	2.5	20	FC 2520 Q5030T
5500	2.5	25	FC 2525 Q5030T
5500	2.5	30	FC 2530 Q5030T
FC Q5038T			
5500	2.5	5.6	FC 2556 Q5038T
5500	2.5	9.7	FC 2597 Q5038T
5500	2.5	15	FC 2515 Q5038T
5500	2.5	20	FC 2520 Q5038T
5500	2.5	25	FC 2525 Q5038T
5500	2.5	30	FC 2530 Q5038T

Further sizes on request.