Cylinder Tube – welded cold drawn tubes	
Material	ST52-3 DIN2393
Certificat	EN10204 3.1B / EN29002
Inside Tolerance	25mm – 100 mm H9
Inside Tolerance	>100mm H8
Roughness	RA 0,4 – 0,8 µm
Piston Rod	
Material	CK45
Certificat	DIN17200 - EN 10204/2.2
Chromium thickness	20 µm
Chromium Hardness	Min. 900 HV
Roughness	-RA < 20 µm
Poriosity	BSS 4641 B
Tolerance	ISO F7
Straightness	0,2 mm on 1000mm
Corrosion test	EN 4540 class 8/9 - 120 hours
Admissible Scratch/marks	Less then 10µm
CICROSA is receiving a certificate of the material for all rods and tubes delivered from the manufactures. The Certificate is making sure, that the quality is as described.	

Cleaning: Because of dirt coming from machining and welding of the cylinder, it is very important to clean the inside of a the tube before mounting the sealing and rod. In CICROSA all Cylinder Tubes until a length of 1500mm is cleaned in a multi stage ultrasonic bath.

All cylinders are testet with air at 8-10 bar to check for leakage.

Weldings: are produced with reference to UNI 258/257. The patented Laser welding gives a deep and perfect welding of the 2 materials together.

Rods : all 120 hours rods are sprayed with a teflon substance that protect the surface during the stocking of the material and cylinders.

Working Pressure : the normal continues working pressure is 200 bar.

Guide rings for piston rod	
Material	Polyuretan 94 shore
Working temperature	-30°C to +80°C
Tolerance for Guide Rings	H11
Recommendation MAX speed	0,83m/s
Seal in the front head	
Material inside backup ring	Polyuretan
MAX pressure	250kg/cm²
Recommendation MAX speed	0,5m/s
Material O-ring	NBR 70/75-85/90 shore
Recommendation MAX speed	2m/s
Piston Seal	
Material	NBR
MAX pressure	500kg/cm²
Tolerance on recess for Sealing	H11
Guide rings for the main piston	
Material	POM + Glass
MAX radial load	400kg/cm²
The sealing of the piston is supported with backup ring and a guide ring, which gives a very good and strong sealing in both directions.	
The expected lifetime for all the main piston sealing is calculated to 300.000 meters of stroke, based on normal working conditions.