



DICHTOMATIK

WCP20

WCP20

50 72 8

WCP20

30 47 7



DICHTOMATIK

Quality assurance

Werkstoff-Datenblatt Material Data Sheet

PTFE Nr. : PT 00 37 07

PTFE + 10% Kohlefaser / PTFE + 10% carbon fibre

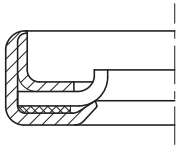
Eigenschaften Properties	Prüfvorschrift Testing Method	Prüfparameter Testing Parameter	Wert Value	Einheiten Units
Härte Hardness	Nadel Needle		58	Shore D
Zugfestigkeit Tensile strength	ASTM D-4894		23.3	N/mm ²
Bruchdehnung Ultimate elongation	ASTM D-4894		271	%
Dichte Specific gravity	ASTM D-4894		2.09	g/cm ³

Erstellt von / created by: Product Management

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Die im Datenblatt dargestellten Ergebnisse sind an Normprobekörpern nach genormten Prüfverfahren ermittelt worden. Vergleiche mit Ergebnissen an fertigen Produkten, z.B. an O-Ringen, führen durch Unterschiede in Geometrie und Fertigungsverfahren zu abweichenden Ergebnissen, die jedoch nicht im Widerspruch zu den Datenblattwerten stehen müssen. Es obliegt dem Anwender, vor Verwendung des Produktes selbst zu prüfen, ob es sich für den Anwendungszweck eignet.

The results displayed in this data sheet were obtained on standard test specimens following standard test procedures. Comparisons with results obtained on finished products, e.g. O-Rings, could lead to other results due to differences in geometry and manufacturing processes. These other results do therefore not automatically contravene the data of this sheet. The evaluation of parts prior to their use in order to ensure their suitability for the intended application is subject to the end user's responsibility.



WCP20

Standard stock

Description

Product group Rotary shaft seal
Design C metal outer coat
+ rigidity ring

Profile No. 20
Seal material PTFE + carbon
fibre
PT 00 3707
Elastomer ring FKM
Colour grey
Metal cages stainless steel
1.4301 (AISI 304)

Operational application limits

Pressure: up to 10 bar
(dependent on the other operating
parameters)
Temperature (°C): -90 to +250
Peripheral speed (m/s): ≤ 40

Media

All types of oil, water, water-oil
emulsion, hot-air, broad chemical
resistance to a great number of
aggressive media.

Function

The WCP20 is a single acting rotary
shaft seal for rotating or pivoting
shafts offering a very long service
life. Excellent sealing performance is
guaranteed by the pre-stressed PTFE
sealing lip which has a very low
friction coefficient providing lower
starting resistance and avoiding stick-
slip problems. As a result the WCP20
also works well in applications where

there is insufficient lubrication or dry
running. Due to a low heat develop-
ment the seal can be used at high
peripheral speeds and with pressures
up to 10 bar, however consideration
should be given to the $p \times V$ factor
(i.e. the product of pressure and
peripheral speed $\leq 40 \text{ bar m/s}$).

To guarantee a high degree of static
sealing on the outer diameter of the
seal a good quality surface finish is
required as follows

$$R_a = 0.8 \text{ bis } 3.2 \mu\text{m}$$

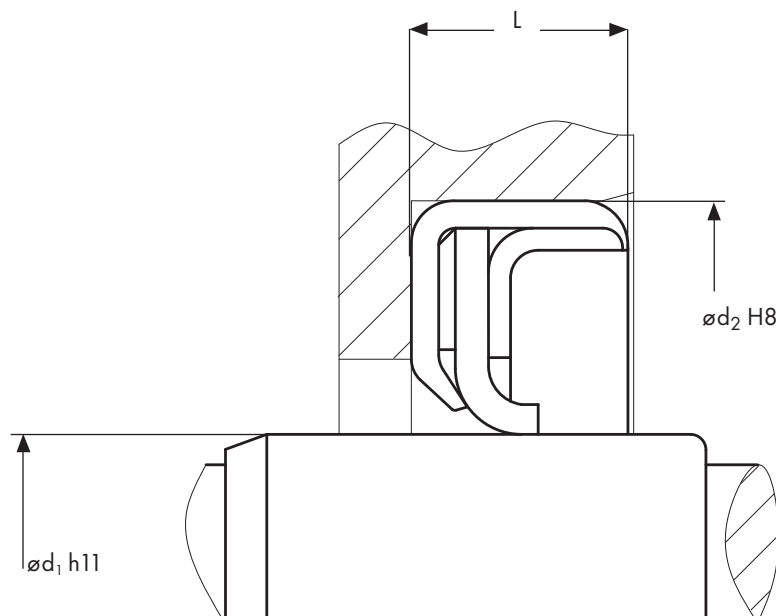
$$R_z = 6.3 \text{ bis } 16 \mu\text{m}$$

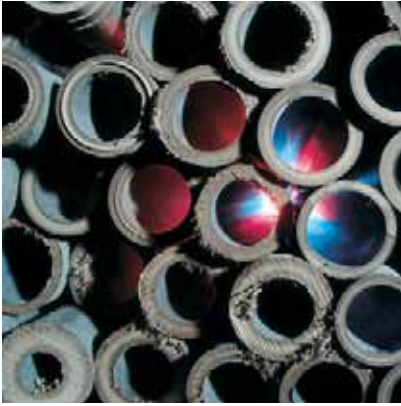
$$R_{\text{max}} \leq 16 \mu\text{m}$$

Surface finish of the housing bore is
extremely important and processing
marks or damage, such as scratching,
scoring, dents or cavities are not per-
missible, particularly when the applica-
tion is in combination with thin fluid or
gaseous media, or split housings are
used. To achieve better static sealing in
these applications an additional coat
of sealing paint can be applied to the
outer metal case.

Areas of Application

Generally used for Sealing of rotating
shafts, hubs, axles or other machine
elements at high peripheral speeds,
high pressures and/or high temperatu-
res. Also used extensively for sealing
of aggressive media or in applications
where there is insufficient lubrication
or dry running due to the excellent
chemical resistance and very good
friction coefficient provided by the PTFE
sealing lip.





Installation

The outer diameter of the metal outer case is centralised in the housing by press-fitting and standard ISO 6194-1 (DIN 3760) housing tolerances should be used. However out-of roundness of the housing should be kept to a minimum to avoid any danger of the PTFE sealing lip no longer being able to follow the shaft at very high speeds. It is recommended that the installation housing is designed to provide the WCP20 with axial support. The PTFE sealing lip must not be damaged or deformed during installation, therefore a suitable tool such as the installation cone (illustrated below) should be used. When installing the WCP20 over a bevelled shaft an installation cone should always be used to avoid deforming the sealing lip. When installing the WCP20 the other way round, with the outside first, a suitable radius, rounding or bevelling must be provided. Otherwise, the usual installation guidelines for rotary shaft seals apply as does the installation chamfer (dk) according to the table.

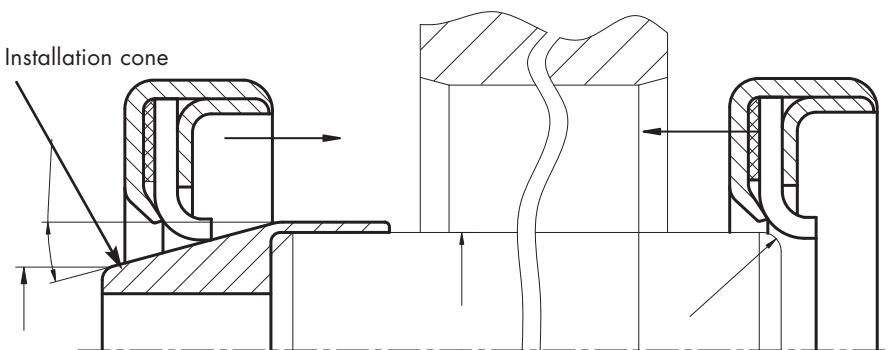
Remarks

Although covering a wide range of applications the WCP20 is most typically used in low pressure, high speed applications. The seals are individually packed and labelled WCP20 with the applicable dimensions (see photograph below).

Any Seal. Any Time

The WCP20 is available from stock in all standard dimensions and you are welcome to double check availability at www.dichtomatik.de. In addition our advanced manufacturing process allows us to produce other dimensions in small quantities and at short notice.

$\varnothing d_1$	$\varnothing d_k$
6 - 60	$\varnothing d_1 - 3.5$
65 - 135	$\varnothing d_1 - 4.5$
140 - 170	$\varnothing d_1 - 6$



Installation WCP20

WCP20Item No. Dimensions in mm
 $\varnothing d_1$ $\varnothing d_2$ L**Sizes**

175332	10	22	7
175333	15	30	7
175334	20	32	7
175335	16	35	7
175336	20	35	7
175337	25	40	7
175338	30	47	7
175339	35	47	8
175340	35	52	8
175341	42	55	8
175342	45	60	8
175343	40	62	8
175344	45	62	8
175345	45	65	8
175346	50	72	8
175347	52	72	8
175348	60	75	8
175349	70	90	10
175350	70	100	10
175351	80	100	10
175352	85	110	10
175353	90	110	10
175354	95	120	12
175355	100	120	12
175356	100	130	12
175357	110	130	12
175358	115	140	12
175359	120	140	12
175360	125	150	12



Any seal. Any time

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