Wiper seals

www.dichta.com
DICHTA is a Swiss seal manufacturer with a production facility subsidiary marketing company in Italy.

The DICHTA group consists of:

DICHTA SA - Chiasso (Switzerland) operating in the Swiss and in the international market

DICHTA Srl - Milano (Italy): operating in the Italian market

DIGOM Sas - Torino (Italy): production facility

DICHTA SA was founded in 1981 and DIGOM has been producing rubber products since 1970.
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1 Description

Wiper rings are used to protect seals, preventing contamination from dirt particles (dust, mud, water, etc.). The lip of the wiper removes even the first dirt from the piston rod. Such dirt particles can cause damage to hydraulic or pneumatic systems during stroke movement. Even if they appear in good condition, wipers should always be replaced when changing seals.

Many applications are:
- earth moving equipments
- lift trucks
- hydraulic presses

2 Standard Seal Types

2.1 Current types

- DAS with ground outer metal housing
- DP6 without metal insert
- DP7 with rubber covered metal insert
- DP8 without metal insert, special profile
- DRS with rubber covered metal insert
- DWR without metal insert, inch sizes

2.2 Interchange Table

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3 Elastomeric Sealing Materials

3.1 Nitrile rubber NBR
This elastomer is a copolymer of butadiene and acrylonitrile and is used for the majority of conventional fluid sealing applications.

Physical data:
- Working temperature range: -40° C to +120° C in oil / + 90° C in water
- Tensile strength: up to 15 MPa
- Standard colour: black

Advantages:
- Good resistance to mineral oil and grease
- Good resistance to water and radiator fluid
- High tear strength

Limitations:
- Poor resistance to high-alloyed hypoid oil
- Poor resistance to ozone, weathering and sunlight
- Not resistant to automotive brake fluid (glycol based)
- Poor resistance to polar fluids (ketones, ethers, esters)
- Poor resistance to chlorinated hydrocarbons (carbon tetrachloride, trichlorethylene)
- Poor resistance to aromatic solvents

3.2 Fluorinated rubber FPM
Mostly known under the trade name VITON from Du Pont, TECHNOFLON from Montedison and FLUOREL from 3M.
It has the best chemical resistance and is recommended for high temperature applications.

Physical data:
- Working temperature range: -30° C to + 200° C
- Tensile strength: up to 15 MPa
- Standard colour: brown

Advantages:
- Excellent resistance to mineral oil and above all high-alloyed hypoid oils
- Excellent acid resistance
- Good resistance to aromatic and chlorinated hydrocarbons
- Excellent resistance to ageing, ozone and weathering

Limitations:
- Limited cold flexibility
- Poor resistance to polar fluids (ketones, ethers, esters)

4 Production and Quality Assurance
Our wiper seals are manufactured according to internal Standard and Quality Assurance Standards ISO 9002.

All production phases are checked and all measurements are recorded and stored for eventual tracing.

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5 Installation and Operation

5.1 Groove design and tolerances

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(see more under chapter 7. Standard Sizes)

5.2 Temperature range and maximum speed

Temperature range of wiper seals is usually between –40° C and + 120° C and max. speed is at 4 m/s. In most cases the material used is NBR (see chapter 3.1.). FPM is used for temperatures up to 200° C (see chapter 3.2.). This elastomer is also resistant against aggressive chemicals.

6 Storage and Handling

Some storage precautions must be taken in order to avoid deterioration of the material. Wiper seals should be stored in a dust free and dry atmosphere and they must be kept in their original wrapping which should only be opened just before installation. Samples should be repacked after inspection. Excessive humidity will deteriorate some elastomers as well as cause corrosive damage to metal casing.

Do not drop wiper seals on shelves or boxes nor hang seals on hooks, wires or nails, since in either case the sealing lip can be damaged.

Seals should be stored on a first in-first out basis to avoid ageing on the shelf. Avoid storage near sources of heat or near electrical equipment that may generate ozone. Also keep away from direct sunlight.
### 7 Standard Sizes

#### Wiper seals DAS

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Wiper seals DAS have a metal housing and are installed in open grooves with interference.
## Wiper seals DAS

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## Wiper seals DP6

Wiper seals DP6 do not have any metal insert and are elastically installed in recessed grooves.

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Wiper seals DP6 do not have any metal insert and are elastically installed in recessed grooves.

[www.dichta.com](http://www.dichta.com)
## Wiper seals DP7

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Wiper seals DP8

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Wiper seals DP8 do not have any metal insert and are installed with slight interference in recessed grooves, so that the wiper can be locked into position in both axial and radial directions.

[www.dichta.com](http://www.dichta.com)
Wiper seals DRS

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Wiper seals DRS have a metal insert and are installed in open grooves with interference.
Wiper seals DRS

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## Wiper seals DWR

Wiper seals DWR do not have any metal insert and are elastically installed in recessed grooves.

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www.dichta.com
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