Putzmeister


# S transfer tube wear parts

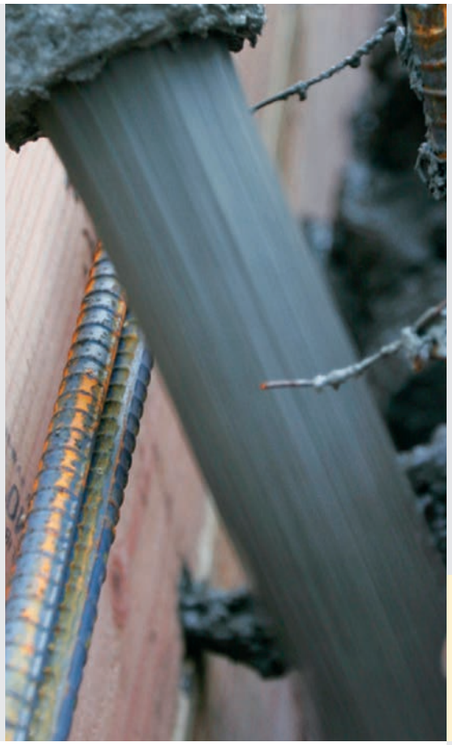
Hardened and long-life

# Wear:
# The most disliked companion

## Not all concrete is the same – some mixes have it in itself

Wherever concrete flows, the material that comes into contact with concrete becomes worn. Whether in a hopper with transfer tube, on the agitator, in the pump or in the delivery lines – scoring or other damage to components cannot be prevented. Wear mainly depends on the type and distribution aggregates (grading curve), the proportion of the binding agent (cement and/or fly ash), the water/cement ratio (water/cement factor), as well as the shape, hardness and porosity of the aggregates. The more adverse the grading curve and the lower the water/cement ratio, the greater the wear. This effect is aggravated by a coarse surface structure in the materials.
The aggregates differ quite substantially both nationally and regionally. In Germany alone, the degrees of hardness vary by a factor of 15 to 20 depending on the region.

Examples of concrete mixes from four countries (from left to right): round pebbles from Austria, broken stones from India and Dubai, and a sample from Turkey (far right) shows particularly sharp-edged and hard aggregate. The grading curves for aggregates start at fine (bottom) and go up to coarse (top).



## There isn't just one single type of wear

Not all types of wear are the same. Distinctions are made between different types of wear depending on how the most abrasive of media comes into contact with the surface of the material and what effect it has on the material during its continuous movement over the material:

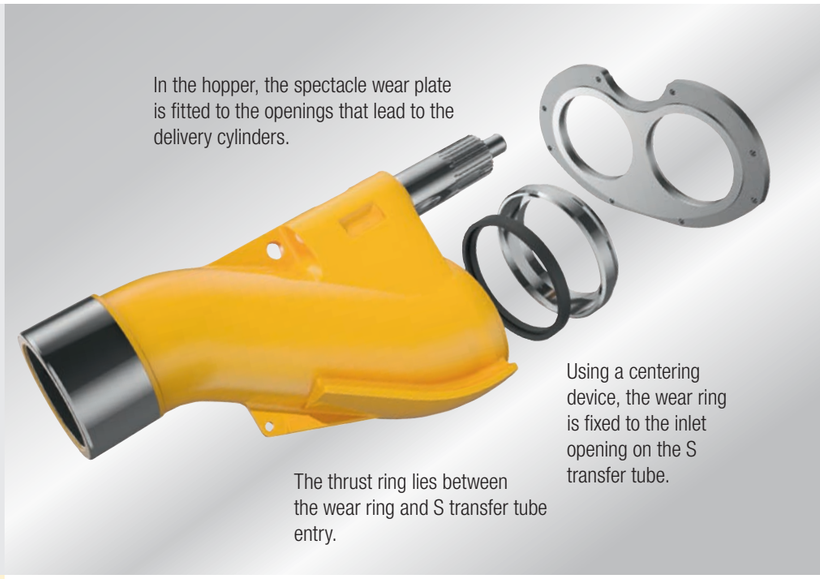
- **Sliding abrasion on both contact surfaces of the wear parts**
- **Blast jet wear on the outer edges of the wear ring and inner edges of openings on the spectacle wear plate**
- **Impact stress at the parting plane, between the spectacle wear plate and wear ring**



# Success is found in the details

## Wear parts made of DURO 22 or hard metal – the decision is based on use

There is nothing fatiguing about our wear parts. There are various qualities available that are precisely matched to the actual purposes: armoured parts for almost all applications, spectacle plates and rings made of hard metal for extreme stress and heavy-duty cast parts for pumping fluid materials and high-pressure delivery. Because costs and benefits should be in the best proportion possible.

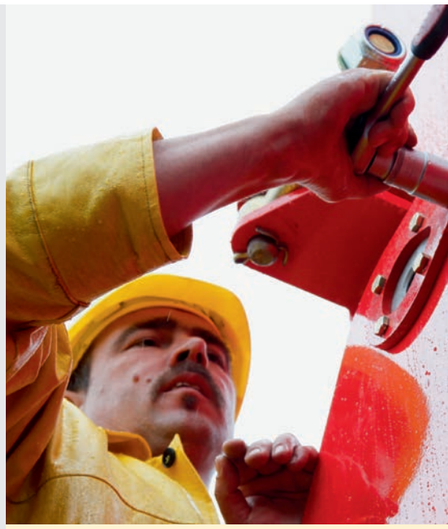



**The wear ring should be at least as wear resistant as the spectacle wear plate.**

## Service – reliable, just like everything from Putzmeister

Wear can be minimized, but unfortunately it cannot be completely prevented. Even maintenance intervals are quite long thanks to our robust wear parts, replacement will be required eventually. To ensure that your machines are available again as soon as possible, we provide tested original parts within the shortest timeframe. This is why we have a 24-hour delivery service. Because we focus not just on the excellent quality of our products, but on excellent services in terms of maintenance, emergency service and spare parts delivery. Our aim is that your machines are available and working reliably and economically under their greatest workload – at all times and everywhere across the world.

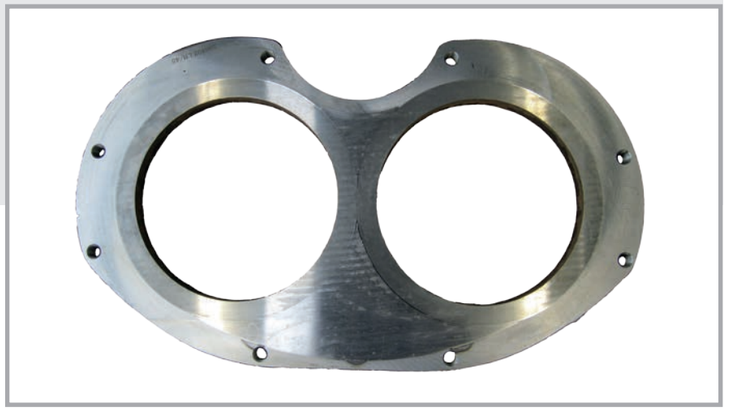
- **Help and advice in over 150 countries across the world**
- **24-hour emergency service in Germany**
- **Tested original parts with warranty and a 24-hour delivery service**
- **Status and diagnostics data via Ergonic® Tele Service (ETS)**
- **Full service contracts, and maintenance and inspection service packages**
- **Manufacturer's inspection in accordance with the requirements of the VDMA (German Engineering Federation)**
- **Customized training courses and seminars run by the Putzmeister Academy**
- **Expert consultation for large projects**



**If you have any further questions, please contact us at:**
**spareparts@pmw.de**
(for spare parts queries)
**services@pmw.de**
(for technical queries)

# I. Carbide* – absolutely robust for extreme applications

Twenty years of experience have gone into these particularly robust and long-life hard metal wear parts. They have been continuously developed and optimised for extreme applications in long-range and high-rise pumping of concrete (e.g. Burj Khalifa).
The result are 3 versions of carbide spectacle wear plate available today. They are guaranteed to withstand any stress because they are made in Germany using hard metal. A newcomer to Putzmeister's powerful team is the compact spectacle wear plate, manufactured thoroughly from carbide. This makes it not just significantly easier and quicker to replace than 3-part spectacle plates, but means that it also scores thanks to the maximum length of its service life. It is a further effective means for reducing your wear and maintenance costs.



1) Compact version
The new compact spectacle plate from Putzmeister consists a basic steel body with a 5 mm thick carbide wear layer. It has a service life which is up to 4 times longer than the DURO 22 standard spectacle wear plate.

## Benefits for you at a glance

- **High hardness values: Up to 4 times longer durability in comparison with DURO 22 (under the same conditions)**
- **Less wear and maintenance costs**
- **Significantly easier and quicker replacement than the 3-part design**
- **3 versions of spectacle wear plate to choose from**
- **Material in the middle section made of Hardox**
- **Carbide made in Germany**

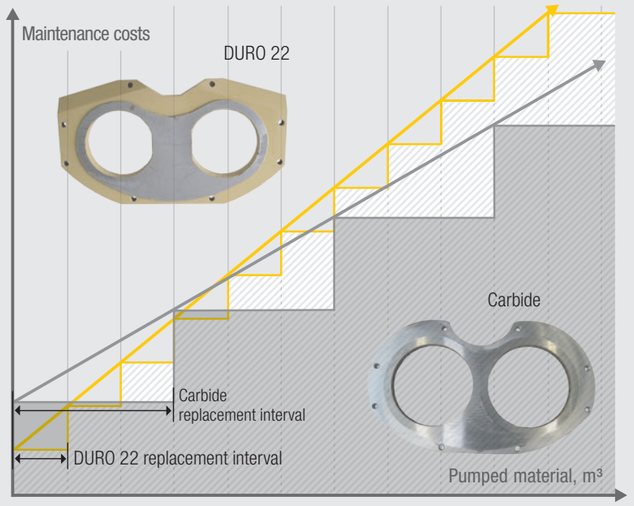
2) Carbide insert socket
Insert ring consisting of basic steel body with brazed carbide segments

3) Gusset version
Basic steel body with carbide equipped steel rings; area between rings with carbide assembly or replaceable screw-on wear plate segments

## Technical data – Carbide

| Wear parts for S transfer tube Carbide | | Hoppers: RS 600 + all RS 905 ND 180 Ø | ND 200 Ø | Hopper RS 907 ND 230 Ø | | Hopper RS 909 ND 230 Ø |
|---|---|---|---|---|---|---|
| **Description** | **Type** | **Part no.** | **Part no.** | **Part no.** | | **Part no.** |
| **Thrust ring** | NBR | 249304.004 | 252898.002 | 458878 | | 458878 |
| **Wear ring** | Carbide | 269758.009 | 269760.000 | 494520 | | 494520 |
| **Spectacle wear plate** | 1) Carbide compact version | 533286<br>Hole pattern 540 mm | 532786<br>Hole pattern 570 mm | 532597<br>Hole pattern 540 mm | 531499<br>Hole pattern 570 mm | 532597<br>Hole pattern 540 mm |
| | 2) Carbide insert socket (gusset version) | | 463444<br>Assembly consists of:<br>2× 485385<br>1× 463435, 1x 463426 | | | |
| | 3) Carbide insert socket | 254566.002<br>Assembly consists of:<br>2× 269759.008,<br>1× 275604.008 | 254656.003<br>Assembly consists of:<br>2× 485385<br>1× 275608.004 | 263726.008<br>Hole pattern 540 mm<br>Assembly consists of:<br>2× 271070.005<br>1× 263728.006 | 276313.000<br>Hole pattern 570 mm<br>Assembly consists of:<br>2× 271070.005<br>1× 2761312.001 | |

* Fitting instructions for spectacle wear plates equipped with carbide segments, available on request (document no. 048422)




For example, 3-fold service life

Different qualities for optimum cost-benefit ratio

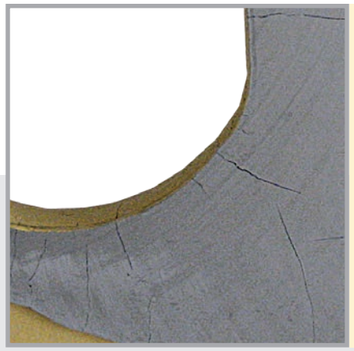
# II. DURO 22* – incredibly favourable, and suitable for (nearly) all scenarios

With DURO 22, it is precisely for those areas which are subjected to the greatest stress they are protected by a welded-on wear layer. Because of this reason wear parts made of DURO 22 have a long lasting durability, and are highly economical thanks to their excellent price-performance ratio.

These wear parts consist of a basic steel body armoured with a welded, hard facing material in areas subject to wear (wear layer welded on).

Basic steel body with hard facing (wear layer)

Cracks are characteristic for the hardness of the material. The harder the material, the more cracks.



## Your benefits at a glance

- **Reasonable price and sufficient durability**
- **Suitable for practically all fields of application in the concrete pumping sector**

## Technical data – DURO 22

| **Wear parts for S transfer tube DURO 22** | | **Hoppers: RS 600 + all RS 905** | | **Hopper RS 907** | | **Hopper RS 909** |
|---|---|---|---|---|---|---|
| | | **ND 180 Ø** | **ND 200 Ø** | **ND 230 Ø** | | **ND 230 Ø** |
| **Description** | **Type** | **Part no.** | **Part no.** | **Part no.** | | **Part no.** |
| Thrust ring | NBR | 249304.004 | 252898.002 | 458878 | | 458878 |
| Wear ring | DURO 22 | 251231.000 | 251031.006<br>a more cost-effective alternative: ECOLINE 403094 | 261123.001 | | 261123.001 |
| Spectacle wear plate | DURO 22 | 234559.000 | 229488.005<br>a more cost-effective alternative: ECOLINE 403095 | 261122.002<br>Hole pattern 540 mm | 406927<br>Hole pattern 570 mm (1HLS/16HLS/20H only) | 519314 |

* Fitting instructions for hard faced spectacle wear plates available on request (document no. 063414)



# III. Wear-resistant casting (cast iron) – free from cracks and preferable firm for thin medium pumping

Parts made of wear-resistant casting have a decisive advantage: they consist of one material throughout. This makes them free of cracks and means that they have little contact surface for penetrating particles. Their minimal susceptibility to blast jet wear makes them ideal for pumping thin mediums and/or where not very abrasive material is being pumped under high pressure.

Because it has been alloyed with certain elements, this special heavy-duty casting displays higher wear resistance.

The heavy-duty casting version is used mainly at PSP in process engineering, and for concrete applications in stationary concrete pumps with S transfer tube only.

Insert sockets – made entirely using heavy-duty casting

Kidney shaped insert – complete component made of wear-resistant casting

## Technical data – wear resistant casting

| **Wear parts for S transfer tube Wear resistant casting** | | **Hoppers: RS 600 + all RS 905** | |
|---|---|---|---|
| | | **ND 180 Ø** | **ND 200 Ø** |
| **Description** | **Type** | **Part no.** | **Part no.** |
| **Thrust ring** | NBR | 249304.004 | 252898.002 |
| **Wear ring** | Casting W72 | 247213.003 | 257270.007 |
| **Spectacle wear plate** | Casting W72 Insert socket | 282242.000<br>Assembly consists of:<br>2× 282056.005<br>1× 275604.008 | 282243.009<br>Assembly consists of:<br>2× 282240.002<br>1× 275608.004 |
| | Casting W72 Kidney-shaped insert | 257297.006<br>Assembly consists of:<br>1× 247246.009<br>1× 273911.007 | 463444<br>Assembly consists of:<br>1× 247247.008<br>1× 247245.000 |

## Your benefits at a glance

- **No development of cracks**
- **Extremely low level of blast jet wear**
- **Ideal for very fluid materials**
- **Advantageous for high-pressure delivery (of less abrasive media)**

# All wear parts at a glance

## I. Carbide

- **High hardness values: Up to 4 times longer durability in comparison with DURO 22 (under the same conditions)**
- **Less wear and maintenance costs**
- **Significantly easier and quicker replacement than the 3-part design**
- **3 versions of spectacle wear plate to choose from**
- **Material in the middle section made of Hardox**
- **Carbide made in Germany**

## II. DURO 22

- **Very good service life to price ratio (sufficient service life)**
- **Suitable for practically all fields of application in the concrete pumping sector**
- **Cracks in the build-up welding are a sign of the particular hardness of the wear parts**

## III. Wear-resistant casting

- **No development of cracks**
- **Extremely low level of shearing wear**
- **Ideal for very fluid materials**
- **Advantageous for high-pressure delivery (of less abrasive media)**



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