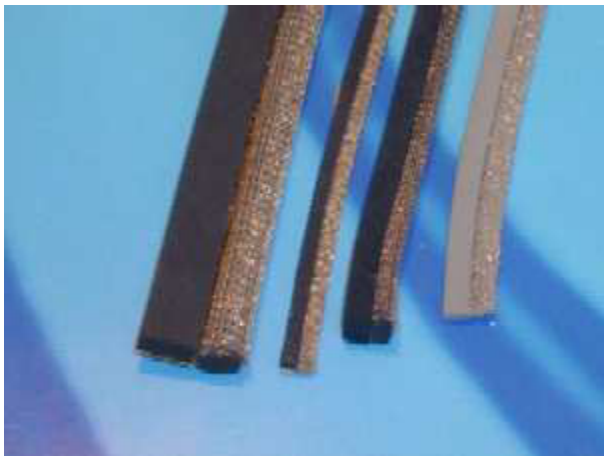
TECHNICAL SPECIFICATION

**Twinshield Gaskets**



The Twinshield type conductive gaskets are made up of one conductive part that provides the electromagnetic shielding function, and one part in elastomer for environmental sealing.

**Applications**

Gasket for the shielding of electric and magnetic fields where there is also a requirement for watertight sealing. Elastic recovery is obtained with expanded materials of various types such as Silicone, Neoprene and EPDM. IP sealing part is combined with shielding part. Utilized for containers, electrical boxes, electronics cabinets, etc., with the IP64 and the IP65 environmental sealing requirement.

**Provision**

In spools or pieces cut to size with perforations ready to install.

**Process specification**

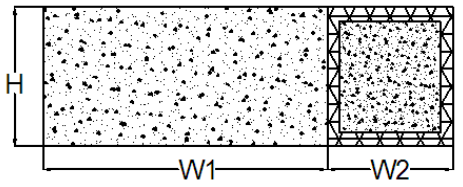
Manufacturing process according to “IO_PRD1_06 Processo Incollaggio Twinshield - Ed. 4”.

**PART NUMBER FOMULATION**

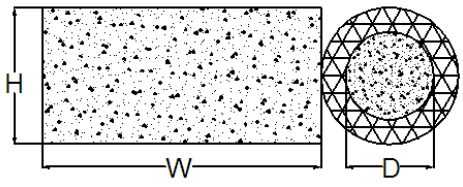
Ex: D.B.R.100.100.50.PU60.2.MO.100.ADLBG

## 1. Section Type

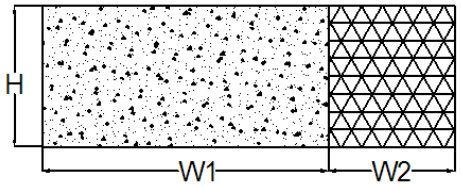
**NOTE: Quotes in millimeters. If the dimensions H and D are equal, H can be omitted in the part number**



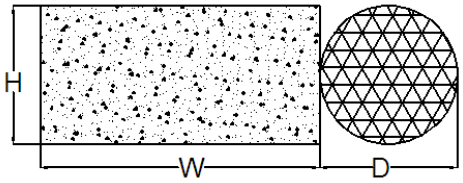

D.B.R.W1x10.W2x10.Hx10



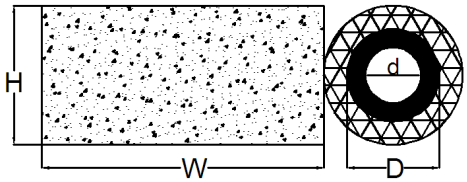

D.B.O.Wx10.Dx10.Hx10




D.A.R.W1x10.W2x10.Hx10




D.A.O.Wx10.Dx10.Hx10




D.B.O.T.Wx10.Dx10xdx10.Hx10

DAR and DAO configuration can be used only in case of permanent closure, no repeated opening and closure.

Tolerances of the product are defined according to “IO_PRD1_02 Parameters and Tolerances - Ed. 3”.

Ex: **D.B.R.100.100.50.**PU60.2.MO.100.ADLBG L=742MM

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## 2. Elastomer type

| Material | EPDM Sponge EDPM-cr | Neoprene Sponge cr201 | Neoprene Sponge cr205 | Socaprene | Poyurethane sponge type: EUROBATEX | Polyurethane sponge: D40 | Polyurethane sponge: D60 UL94 HBF | Polyurethane sponge: D90 | Silicone sponge | Transparent Silicone sponge | EPDM type: SP-50-EPM/TN | EPDM type: SP-100-EPM/TN | EPDM type: SP-MICRO-EPM/TN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Code** | EPDM341 | N201 | N205 | CIG3 | EBX | PU40 | PU60 | PU90 | SE | S | SP50 | SP100 | SPMICRO |
| **Color** | Black | Black | Black | Gray | Black | White | Dark gray | Dark gray | White | Transparent | Black | Black | Black |
| **Density** | 110-150 kg/m3 | 130-170 kg/m3 | 210-300 kg/m3 | 170-220 kg/m3 | 60 kg/m3 | 40 kg/m3 | 60-65 kg/m3 | 70-95 kg/m3 | 0,50-0,60 g/cm3 | 1,16 g/cm3 | 0,430 +/- 0,050 g/cm3 | 0,400 +/- 0,050 g/cm3 | 0,600 +/- 0,080 g/cm3 |
| **Hardness** | 20-40 SH 00 | 38-55 SH 00 | 45-65 SH 00 | 38-55 SH 00 | / | / | / | / | / | 63 SH 00 | / | / | / |
| **Compression Resistance** | 14/35 KPa (25% 22 h Room T.) | 35/63 kPa (25% 22 h Room T.) | 63/91 kPa (25% 22 h Room T.) | 35/63 kPa (25% 22 h Room T.) | N.D. | N.D. | 6,0 kPa (40%) | 2,0 kPa (50%) | N.D. | N.D. | 0,120 MPa (25% 22 h Room T.) | 0,10 MPa (25% 22 h Room T.) | 0,250 MPa (25% 22 h Room T.) |
| **Water Absorbance (ASTM D 1056)** | 3% | 0,70% | 0,60% | 0,90% | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| **Breaking lengthness (DIN 53571)** | 190% | 129% | 156% | 236% | N.D. | 200% | 260% | 150% | 350-450% | 381 | N.D. | N.D. | N.D. |
| **Breaking resistance (DIN 53571)** | 500 kPa | 810 kPa | 1001 kPa | 756 kPa | / | 130 kPa | 160 kPa | 250 kPa | N.D. | 8,9 MPa | N.D. | N.D. | N.D. |
| **Flame resistance** | / | 94 HB | 94 HB | 94 V0 >4mm (UL94) | UL94 V0 | UL94 HF1 – MVSS302 SE | UL94 HBF | / | Fino a 200 - 260°C | N.D. | / | / | / |
| **Using temperature (in continue)** | From - 50 to 100°C up to 110°C intermitting | From –40 to +85°C up to 100°C intermitting | From –40 to +85°C up to 100°C intermitting | From –40 to +85°C up to 100 °C intermitting | From -45 to + 120°C | From –40 to + 80 °C up to 120 °C intermitting | From – 40 to + 120 °C | From – 40 to + 120 °C | From – 40 to + 120 °C | From – 40 to + 120 °C | From –35 to +110°C | From – 35 to + 110 °C | From – 35 to + 110 °C |

Ex: D.B.R.100.100.50.**PU60**.2.MO.100.ADLBG L=742MM

Produkt anfragen

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### 3. Number of Layers

Valid only for shielding part with elastomer core (section DBR, DBO and DBOT)

| Number | Code |
|---|---|
| 1 Layer | 1 |
| 2 Layers | 2 |
| 3 Layers | 3 |
| 4 Layers | 4 |
| 5 Layers | 5 |
| 6 Layers | 6 |

Ex: D.B.R.100.100.50.PU60.**2**.MO.100.ADLBG L=742MM

**Notes:** Possible also with layers of different types (Ex: 2.MO.2.CWS)

### 4. Conductive Wire

| Conductive Wire | | | |
|---|---|---|---|
| **Name** | **Code** | **Dimensions** | **Material** |
| Copperweld | CWS | 0,09 or 0,11 mm | Tin plated 40% Copper clad steel |
| Monel | MO | 0,09 or 0,11 mm | Main components: Ni-Fe-Cu |
| Tin-Copper | RS | 0,12 mm | Tin coated copper |
| Stainless steel | SS | 0,06 – 0,11 mm | Stainless steel AISI 304 |
| Alluminum | AL | 0,11 mm | Alluminum wire n° 3.3555 |
| P-91 | P-91 | 550 dtex 1800 Nm | Flame retardant yarn in Polyacrilonitryle and copper coated with tin – 70% PAN FR – 30% Cu+Sn |
| NyAg | PaAg | 0.170 mm | Nylon 6.6 filament yarn |
| P-140 | P-140 | 350 dtex 28500 Nm | Flame retardant yarn in Polyacrilonitryle and copper coated with tin – 50% PET – 50% Cu+Sn |

**Notes:** MO0,09 indicates Monel wire with 0.09 mm diameter
MO. indicates Monel wire with 0.11 mm diameter

| Shieldig effectiveness (Valid only for shielding part with elastomer core DBR, DBO and DBOT) | | | | | |
|---|---|---|---|---|---|
| **Material** | **Layers** | **Magnetic Field – 100 kHz** | **Electrical Field – 10 MHz** | **Plane wave – 1 GHz** | **Plane wave – 10 GHz** |
| MONEL | 1 | | 65 | 80 | |
| MONEL | 2 | 30-45 | 75 | 84 | 60 |
| MONEL + CWS | 2+2 | 30-45 | 85 | 92 | >60 |
| MONEL + CWS | 2+3 | 68 | 90 | >100 | 75 |

| Shieldig effectiveness (Valid for full metal gaskets DAR, DAO) | | | | |
|---|---|---|---|---|
| **Material** | **Magnetic Field – 100 kHz** | **Electrical Field – 10 MHz** | **Plane wave – 1 GHz** | **Plane wave – 10 GHz** |
| MONEL | 60 | 130 | 90 | 80 |
| CWS | 80 | >130 | 105 | 95 |

Ex: D.B.R.100.100.50.PU60.2.**MO**.100.ADLBG L=742MM

**5. Side with adhesive**

Last three numbers, if present, indicate the sides with the adhesive. Possible without adhesive.

Ex: D.B.R.100.100.50.PU60.2.MO.**100**.ADLBG L=742MM

**6. Biadhesive tape**

| Material | Code | Adhesive | Temperature range |
|---|---|---|---|
| TESA 4914 | ADB | Modified acrylic | Up to 200° C |

Ex: D.B.R.100.100.50.PU60.2.MO.100.**ADLBG** L=742MM

**7. Type of supply**

If the length is indicated it means that the gasket is supplied in pieces, if the lenght is not present it means that the gasket is supplied in linear meters.

Ex: D.B.R.100.100.50.PU60.2.MO.100.ADLBG **L=742MM**