

Tab. 4 - THERMOPLASTIC ELASTOMERS - POLIURETHANES : TPU

| Artic Seals Code | Description | Colour identification | Typical Applications & Description | Service Temperature Range °C (F°) | Shore Hardness | |
|------------------|--|-----------------------|---|-----------------------------------|----------------|----|
| | | | | | A | D |
| AO | Polyether copolymer-based TPU | Light Violet | Combines hardness with excellent mechanical properties and good hydrolysis resistance. Ideal for Pneumatic applications like rod seals, piston seals and wipers | -40 to +90 | 85 | |
| AT | Virgin Polyether copolymer-based TPU | Transparent | Combines low hardness with excellent mechanical properties and good hydrolysis resistance. Ideal for Pneumatic applications like rod seals, piston seals and wipers. | -40 to +90 | 85 | |
| AG | Graphite Filled Polyether copolymer-based TPU | Graphite Grey | Combines hardness with excellent mechanical properties and good hydrolysis resistance. Improved wear resistance and reduced friction compared with standard AO TPU. | -40 to +90 | 85 | |
| BO | polyether-based thermoplastic polyurethane | Light Grey | Exceptional performance in terms of compression set, wear resistance and hydrolysis resistance. Excellent Pneumatic rod seals, piston seals and wipers | -40 to +90 | 90 | |
| BT | Virgin polyether-based thermoplastic polyurethane | Transparent | Exceptional performance in terms of compression set, wear resistance and hydrolysis resistance. Excellent for Pneumatic rod seals, piston seals and wipers. Trasparent version. | -40 to +90 | 90 | |
| BG | Graphite Filled polyether-based thermoplastic polyurethane | Graphite Grey | Exceptional performance in terms of compression set, wear resistance and hydrolysis resistance. Improved wear resistance and reduced friction compared with standard BO. Excellent for Pneumatic rod seals, piston seals and wipers. | -40 to +90 | 90 | |
| CO | Caprolactone-based thermoplastic polyurethane. | Violet | Exceptional performance in terms of compression set, wear resistance and hydrolysis resistance over conventional polyester-based TPUs. Material produced by Kasting. | -35 to +110 | 94 | |
| CT | Caprolactone-based thermoplastic polyurethane. | Transparent | Exceptional performance in terms of compression set, wear resistance and hydrolysis resistance over conventional polyester-based TPUs. Material produced by Kasting. Tansparent version | -35 to +110 | 94 | |
| DO | Polyester based thermoplastic polyurethane. | Fuchsia | Grease and oil-resistant; low compression set; good heat resistance, high elasticity, good for automotive engineering, technical parts and bearing bushes | -35 to +110 | 98 | |
| EO | Polyether based polyurethane | natural white | High antiextrusion resistance for antiextrusion ring, wipers and special applications. Better resistance to hydrolysis and microbiological attack, a very good cold flexibility but a lower resistance to oxidation, in comparison with Poliester TPUs. | -25 to +100 | | 62 |
| FO | Polyether based polyurethane | brown | Polyurethane for general purpose where high extrusion resistance is required. Better resistance to hydrolysis and microbiological attack, a very good cold flexibility but a lower resistance to oxidation, in comparison with Poliester TPUs. | -20 to +100 | | 70 |
| GO | PPDI isocyanate based thermoplastic polyurethane | Dark Grey | Offers a combination of properties not obtainable with MDI polyurethane based. Very low compression set at elevated temperatures (+135°C), Resistance to abrasion, flex cracking, cutting and tearing, rebound resilience are all taken to a significantly higher level. Most relevant application is hydraulic seals where temperature reach +135°C. | -30 to +135 | 93 | |
| GT | Virgin PPDI isocyanate based thermoplastic polyurethane | Transparent | Offers a combination of properties not obtainable with MDI polyurethane-based. Very low compression set at elevated temperatures (+135°C), Resistance to abrasion, flex cracking, cutting and tearing, rebound resilience are all taken to a significantly higher level. Most relevant application is hydraulic seals where temperature reach +135°C. | -30 to +135 | 93 | |
| X1 | polyether-based thermoplastic polyurethane | natural | Exceptional performance in terms of compression set, wear resistance and hydrolysis resistance. Excellent for Hydraulic and Pneumatic seals at low temperature. | -50 to +90 | 94 | |
| X7 | Polyester based thermoplastic polyurethane. | natural | Grease and oil-resistant; low compression set; good heat resistance, high elasticity, good for automotive engineering, technical parts and bearing bushes | -35 to +110 | 98 | |

| Tab. 5 - THERMOPLASTIC ELASTOMERS: TPE | | | | | | |
|--|--|-----------------------|--|---------------------------------------|----------------|----|
| Artic Seals Code | Description | Colour identification | Typical Applications & Description | Service Temperature Range °C (F°) | Shore Hardness | |
| | | | | | A | D |
| L0 | High performance thermoplastic polyester elastomer | Black | Dedicated to anti-extrusion rings and special parts requiring food contact compatibility. Food compliance specificity. It show extended resistance to extrusion and excellent fluid compatibility. | -55 to +110 | | 37 |
| L1 | Thermoplastic polyester elastomer | Yellow | Mainly used for production of anti-extrusion rings. It show extended resistance to extrusion and excellent fluid compatibility. | -30 to + 130 (Peaks till -50 to +150) | | 55 |
| L2 | Thermoplastic polyester elastomer | Light violet | Mainly used for production of anti-extrusion rings. It show extended resistance to extrusion and excellent fluid compatibility. | -30 to + 130 (Peaks till -50 +150) | | 63 |
| L7 | Thermoplastic polyester elastomer | White | General purpose industrial parts, with extended resistance to extrusion and excellent fluid compatibility. | -30+ 130 (Peaks till -50 +150) | | 72 |

| Tab. 6 - THERMOPLASTIC ENGINEERED RESIN: POM- PA-PBT | | | | | | |
|--|---|-----------------------|---|-----------------------------------|----------------|---------|
| Artic Seals Code | Description | Colour identification | Typical Applications & Description | Service Temperature Range °C (F°) | Shore Hardness | |
| | | | | | A | D |
| R0 | POM homopolymer 20% glass fiber filled | Black | High stiffness, low warpage and low creep for superior performance at elevated temperature. It contains carbon black for improved weathering. Primary application is Hydraulic wearing. | -40°C to +115°C | | 85 |
| R2 | POM homopolymer Heat stabilized | White | Acetal homopolymer, with improved thermal stability, good mechanical properties, and low volatile emissions. | -40°C to +115°C | | 85 |
| R2FG | POM homopolymer Food Grade | White | Food compliance specificity; Acetal homopolymer, with improved thermal stability. It has been developed for consideration into applications such as parts for the food industry. | -40°C to +115°C | | 85 |
| R3 | POM filled 10% PTFE/Silicone | White | Self-lubricating material, good wear resistance. Mainly used for pneumatic wearing. It shows high mechanical properties, low friction coefficient and low wear. | -40°C +115°C | | 84 |
| R1 | PA6 40% glass fiber filled | Black | The glass fiber reinforcement enhances performance such as strength, stiffness and heat deflection temperature. The heat stabilizer system extends the properties at elevated temperatures. It also has excellent chemical resistance to greases, oils and hydrocarbons | -40°C +140°C | | 86 |
| R9 | PA6 40% glass fiber and 15% PTFE filled | Black | Heat stabilized PA6 40% glass fiber and 15% PTFE filled, ideal for hydraulic special items such as bushings, wipers and back-up rings where there is a demand for high toughness and low friction. . Self lubricating compound. | -40°C + 140°C | | 85 - 88 |
| R4 | PA6 + MOS2 | Dark Grey | Heat stabilized PA6 filled with MoS2, ideal for hydraulic special items such as bushings, wipers and back-up rings where there is a demand for high toughness and low friction. Self lubricating compound. | -40°C +130°C | | 85 |
| P2 | Polibutilentereftalato (PBT) | White | PBT compound based filled with PTFE. It shows excellent self-lubricating properties. General purpose for industrial and meccanichal applications. | -30+ 130 (Peaks till -50 +150) | | 72 |

| Tab. 7 - THERMOPLASTIC ENGINEERED RESIN: COMPOSITE RESIN | | | | | | |
|--|--|-----------------------|---|-----------------------------------|----------------|----------|
| Artic Seals Code | Description | Colour identification | Typical Applications & Description | Service Temperature Range °C (F°) | Shore Hardness | |
| | | | | | A | D |
| S0 | Phenol resin Cotton fabric reinforced | Tan | Self-lubrication, good mechanical properties, good dimensional stability and chemical resistance. Excellence in water resistance and in abrasion resistance. Excellence in impact. Main applications are wear ring for all kinds of cylinder, sliding bearing and bushes. | -60 to +150 | | 80 (45)* |
| S1 | Phenol resin polyester fabric reinforced with PTFE | Ligh blue | Self-lubrication, good mechanical properties, good dimensional stability and chemical resistance. Excellence in water resistance and in abrasion resistance. Excellence in impact. Main applications are wear ring for all kinds of cylinder, sliding bearing and bushes. | -60 +150 | | 75 (45)* |
| S3 | Phenol resin polyester fabric reinforced with GRAPHITE | Dark grey | Excellent dimensional stability and abrasion resistance. Self-lubrication and wide chemical resistance. Excellence in water. Main applications are wear ring for all kinds of cylinder, sliding bearing and bushes. | -50 +150 | | 80 (45)* |

| Tab. 8 - SYNTHETIC FLUOROPOLYMER: Polytetrafluoroethylene (PTFE) | | | | | | |
|--|---|-----------------------|---|-----------------------------------|----------------|---------|
| Artic Seals Code | Description | Colour identification | Typical Applications & Description | Service Temperature Range °C (F°) | Shore Hardness | |
| | | | | | A | D |
| T1 | PTFE Virgin | White | Wide temperature range, excellent sliding properties, good steam and hot water resistance; FDA approved. | -190 to +230 | | 55 - 57 |
| T3 | PTFE fiber Glass Filled (15%), Graphite, MoS2 (3%) | Green | Developed for hydraulic piston seals, involved in extreme conditions such as high pressure, high temperature, wear resistance on hardened dynamic surfaces. | -190 +290 | | 55 - 61 |
| TM | PTFE Bronze Filled (40%) | Brown | High compressive load and extrusion resistance, ideal for hydraulic rod/piston seals. | -150 +260 | | 58 - 65 |
| TV | PTFE Bronze Filled (40%) | Green | High compressive load and extrusion resistance, ideal for hydraulic wearing. | -150 +260 | | 58 - 65 |
| TC | PTFE Graphite Filled (15%) | Black | High chemical and corrosive resistance, low abrasion for soft shaft. Self-lubricating properties, ideal for hydraulic wearing. | -190 +230 | | 55 |
| T4 | PTFE Carbon Filled (10%) | Dark Grey | Good in water service, very high chemical resistance against strong alkali and hydrofluoric acid. | -190 +230 | | 64 - 67 |

| Tab. 9 - THERMOSET ELASTOMERS : Nitrile (NBR) | | | | | | |
|---|-------------|-----------------------|---|-----------------------------------|----------------|---|
| Artic Seals Code | Description | Colour identification | Typical Applications & Description | Service Temperature Range °C (F°) | Shore Hardness | |
| | | | | | A | D |
| N0 | NBR 70 Sh | Black | General purpose nitrile rubber, ideal for soft seals like standard O-ring energizing element for PTFE sealing system | -30 +100 | 70 | |
| N1 | NBR 73 Sh | Black | General purpose nitrile rubber, ideal for soft seals like standard O-ring and energizing element for PTFE sealing system | -30 +100 | 73 | |
| N2 | NBR 75 Sh | Black | General purpose nitrile rubber, with low compression set, good chemical compatibility and good modulus, ideal for pneumatic sealing system. | -30 +100 | 75 | |
| N3 | NBR 75 Sh | Black | General purpose nitrile rubber, with low compression set, good chemical compatibility and good modulus, ideal for pneumatic sealing system. | -35 +120 | 75 | |
| N4 | NBR 90 Sh | Black | Hard nitrile with high modulus and good compression set, for outstanding anti-extrusion application. | -30 +100 | 90 | |
| N5 | NBR 80 Sh | Black | Premium nitrile, for use application where its required perfect sealing at low temperature. | -60 +100 | 80 | |

| Tab. 10 - THERMOSET ELASTOMERS : Fluorocarbon Elastomer (FKM) | | | | | | |
|---|-----------------------|-----------------------|---|-----------------------------------|----------------|---|
| Artic Seals Code | Description | Colour identification | Typical Applications & Description | Service Temperature Range °C (F°) | Shore Hardness | |
| | | | | | A | D |
| FKM75 | Fluoro-elastomer 75SH | Black / Brown | General purpose Fluorocarbon, strong resistance to chemical attack and heat | -25 + 200 | 75 | |
| FKM 85 | Fluoro-elastomer 85SH | Brown | General purpose Fluorocarbon, strong resistance to chemical attack and heat | -20 +200 | 85 | |

The above reported values are based on laboratory tests performed on specimen and reflected typical material properties. The application limits are maximum values determined in the laboratory. It is recommended that customers perform adequate testing to evaluate the suitability of each individual products.