

HTR/OR Series

HIPEX®

The HTR/OR Series is your material solution for applications requiring high temperature and oil resistance.

Typical applications

- Closures
- Fastenings
- Flexible Connections
- Seals

Material advantages

- Excellent heat resistance up to 150 °C
- Excellent resistance against motor and gearbox oil
- For injection molding
- Recyclable

Processing Method: Injection Molding

	Color / RAL DESIGN	Hardness DIN ISO 7619-1 ShoreA	Density DIN EN ISO 1183-1 g/cm ³	Tensile Strength ¹ DIN 53504/ISO 37 MPa	Elongation at Break ¹ DIN 53504/ISO 37 %	Tear Resistance ISO 34-1 Methode B (b)(Graves) N/mm	CS 72 h/23 °C DIN ISO 815-1 Method A %	CS 24 h/70 °C DIN ISO 815-1 Method A %	CS 24 h/120 °C DIN ISO 815-1 Method A %
HX6IDN	natural	60	1.100	4.5	240	15.0	35	50	60
HX6IDZ	black	60	1.100	4.5	240	15.0	35	50	60
HX7IDN	natural	70	1.110	6.0	240	17.0	40	45	60
HX7IDZ	black	70	1.120	6.0	240	17.0	40	45	60
HX8IDN	natural	80	1.130	7.5	240	22.0	50	55	60
HX8IDZ	black	80	1.130	7.5	240	22.0	50	55	60

¹ Deviating from ISO 37 standard test piece S2 is tested with a traverse speed of 200 mm/min.

All values published in this data sheet are rounded average values.



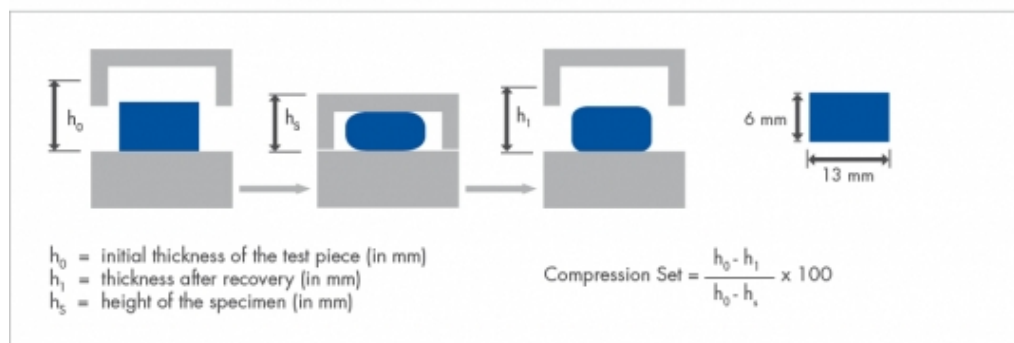
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Compression Set

Compression Set (acc. DIN ISO 815)

For the compression set testing the following specimen is used:
The specimen is a cylindrical disk shaped 6 mm thick and 13 mm in diameter.



The specimen is compressed by 25%. The compressed specimen is heated to the test temperature. DIN ISO 815 describes two methods.

Method A: The specimen is allowed to recover immediately after its aging in the oven and then cooled down to room temperature. After 30 minutes the thickness of the specimen is measured and the compression set calculated.

Method B: The specimen is cooled down to room temperature after its aging in the oven and then allowed to recover.

Test results gained from method B are in general higher than from method A.



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Processing Guideline Injection Molding

Cylinder temperature	210 - 220 - 230 °C, max. 240 °C (410 - 430 - 450 °F, max. 460 °F)
Hotrunner	Hot runner temperatures: 180 - 220 °C (356 - 428 °F). The runner should be empty after a maximum of 2 - 3 shots.
Injection pressure	1200 - 2000 bar (18855 - 29010 psi); depending on size and weight of the part.
Injection rate	In general, the fill time should not be more than 1–2 seconds.
Hold pressure	We recommend to derive the optimum hold pressure from determining the solidification point, starting with 40 % - 60 % of the required injection pressure.
Back pressure	20 - 100 bar; if color batches are used, higher back pressure is necessary.
Screw retraction	If an open nozzle is used processing with screw retraction is advisable.
Mold temperature	The mold temperature depends on the hard component. A temperature exceeding 80 °C (175 °F) should be avoided. The common temperature is 40 - 60 °C (105 - 140° F).
Predrying	Pre drying of the material of at least 2 h at 105 °C is recommended. Processing with residual moisture of 0,1 % is recommended.
Needle valve	With materials < 50 Shore A the use of a needle valve is advisable.
Screw geometry	Standard 3-zone polyolefine screw.
Residence time	The residence time should be set as short as possible. If the residence time is too long, a distinctive smell will appear and the TPE shows "frothing". Please ensure the forced ventilation instruction mentioned in the material safety datasheet.
Cleaning recommendation	For cleaning and purging of the machine it is appropriate to use polypropylene or polyethylene. Machine must be PVC-free.
Other information	Provide sufficient ventilation and punctiform suction at critical points.

