

DW/CS Series

THERMOLAST® K

The DW/CS Series is your material solution for applications in contact with drinking water as well as excellent compression set. The compounds are approved in accordance with all relevant European drinking water standards – DVGW, W270, KTW, WRAS, ACS.

Typical applications

- Seals, functional and design elements in sanitary sector

Material advantages

- Easy coloring (compounds in natural colors)
- For injection molding and extrusion
- Smooth surface and repels dirt and lime deposit

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 %
TF6WCS	natural	58	0.930	15.0	550	12.0	10	70
TF7WCS	natural	70	0.930	15.0	550	20.0	12	60
TF8WCS	natural	76	0.930	15.0	550	22.0	14	63
TF9WCS	natural	87	0.950	15.0	300	30.0	40	65

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

- WRAS (BS 6920) for cold- and warm water applications in natural color and colored - W270 in natural color and colored - Compliance regarding ACS DGS/VS4 2000/232 dated 27.4.2000, DGS/VS4 n° 99/217 dated 04/12/1999 - KTW guideline for 23 °C and 60 °C (or transition regulation of UBA from 04/21/2012 for cold water 73 °F (23 °C) and warm water 140 °F (60 °C))

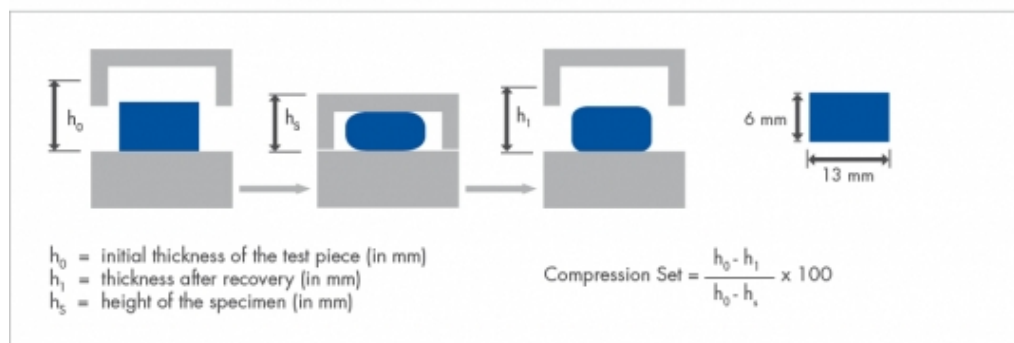
All values published in this data sheet are rounded average values.



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	230 - 250 - 260 °C max. 280 °C (470 - 500 - 520 °F, max. 540 °F)
Hotrunner	Hot runner temperatures 250 - 265 °C / 480 - 510 °F. The runner should be empty after a maximum of 2 - 3 shots
Injection pressure	200 - 1000 bar (2900 - 14504 psi) (depending on the 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	25 - 40 °C (77 - 104 °F)
Predrying	Pre drying of the material is not necessary; if surface moisture forms as a result of changes in temperature, the material should be dried for 2 - 4 hours at 60°C (140° F).
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 is to be set as short as possible with a maximum of 10 minutes.
Cleaning recommendation	For cleaning and purging of the machine it is appropriate to use polypropylene or polyethylene. Machine must be PVC-free.

