Celanese
The chemistry inside innovation™

HOSTAFORM® C 9021 K

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Chemical abbreviation according to ISO 1043-1: POM-KD5 Molding compound ISO 29988- POM-K, M-GNR, 03-002, K5 POM copolymer Injection molding type, with special chalk modified; good wear properties; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation. UL-registration in natural and a thickness more than 1.57 mm as UL 94 HB, temperature index UL 746 B electrical 105 °C, mechanical 90 °C (tensile impact) and 80 °C (tensile). Burning rate ISO 3795 and FMVSS 302 < 100 mm/min for a thickness more than 1 mm. Ranges of applications: for unlubricated or once-only-lubricant sliding Parts. FMVSS = Federal Motor Vehicle Safety Standard (USA) UL = Underwriters Laboratories (USA)

Product information

Resin Identification	POM-KD5	ISO 1043
Part Marking Code	>POM-KD5<	ISO 11469

Rheological properties

Melt volume-flow rate	7.5	cm^3/10min	ISO 1133
Temperature	374	°F	
Load	4.76	lb	
Molding shrinkage, parallel	2.1[1]	%	ISO 294-4, 2577
Molding shrinkage, normal	1.8[1]	%	ISO 294-4, 2577

[1]: @ 195°C

Typical mechanical properties

Tensile modulus	435000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	8700	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	8	%	ISO 527-1/-2
Nominal strain at break	22	%	ISO 527-1/-2
Flexural modulus	421000	psi	ISO 178
Tensile creep modulus, 1h	363000	psi	ISO 899-1
Tensile creep modulus, 1000h	203000	psi	ISO 899-1
Charpy impact strength, 23°C	47.6	$ftlb/in^2$	ISO 179/1eU
Charpy impact strength, -30°C	47.6	$ftlb/in^2$	ISO 179/1eU
Charpy notched impact strength, 23°C	2.38	$ftlb/in^2$	ISO 179/1eA
Charpy notched impact strength, -30°C	2.38	$ftlb/in^2$	ISO 179/1eA
Ball indentation hardness, H 358/30	21000	psi	ISO 2039-1

Thermal properties

Melting temperature, 10°C/min	331	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	212	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.61	E-4/°F	ISO 11359-1/-2
Thermal conductivity of melt	0.195	W/(m K)	ISO 22007-2
Specific heat capacity of melt	2060	J/(kg K)	ISO 22007-4

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	0.0630	in	IEC 60695-11-10
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.1252	in	IEC 60695-11-10

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UL recognition	yes		UL 94

Electrical properties

Relative permittivity, 100Hz	4.2		IEC 62631-2-1
Relative permittivity, 1MHz	4.2		IEC 62631-2-1
Dissipation factor, 100Hz	25	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	60	E-4	IEC 62631-2-1
Volume resistivity	1E12	Ohm.m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	889	kV/in	IEC 60243-1
Comparative tracking index	600		IEC 60112

Physical/Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.65	%	Sim. to ISO 62
Density	0.052	lb/in^3	ISO 1183

Injection

Drying Recommended	no	
Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	392	°F
Min. melt temperature	374	°F
Max. melt temperature	410	°F
Max. screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F
Hold pressure range	8700 - 17400	psi
Hold Pressure Time (h is the max. wall thickness of the part in mm)	2h^2-3	s
Back pressure	290	psi
Ejection temperature	284	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
BMW	GS93016	
Bosch	N28 BN22-X016	Natural
Continental	TST N 055 54.09	

Characteristics

Processing	Injection Molding, Other Extrusion
Additives	Release agent
Special characteristics	Low wear / Low friction

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Additional information

Injection molding

Preprocessing

General drying is not necessary due to low moisture absorption of the resin.

In case of bad storage conditions (water contact or condensed water) the use of a recirculating air dryer (100 to 120 °C / max. 40 mm layer / 3 to 6 hours) is recommended.

Max. Water content 0,2 %

Processing

Standard injection moulding machines with three phase (15 to 25 D) plasticating screws will fit.

Postprocessing

Conditioning e.g. moisturizing is not necessary.

Processing Notes

Pre-Drying

Drying is not normally required. If material has come in contact with moisture through improper storage or handling or through regrind use, drying may be necessary to prevent splay and odor problems.

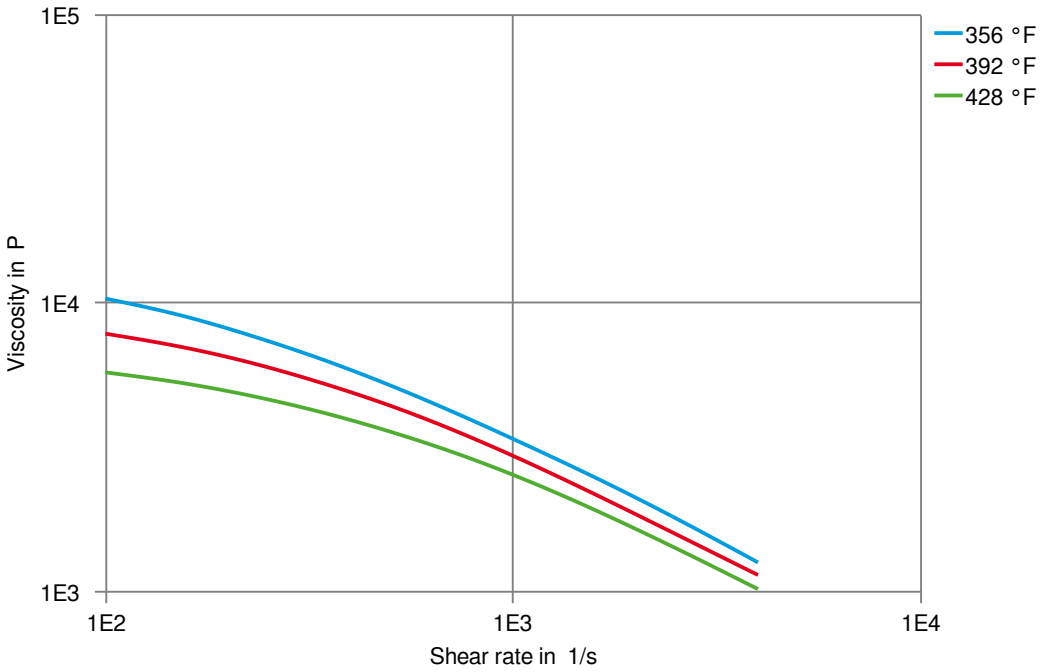
Storage

The product can then be stored in standard conditions until processed.

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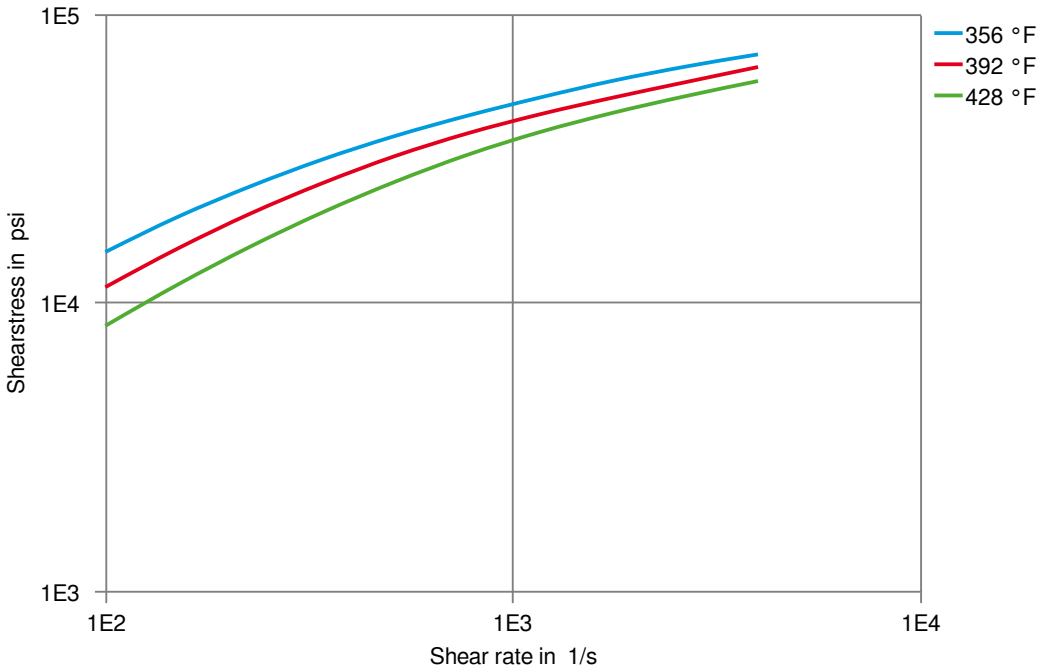
Viscosity-shear rate



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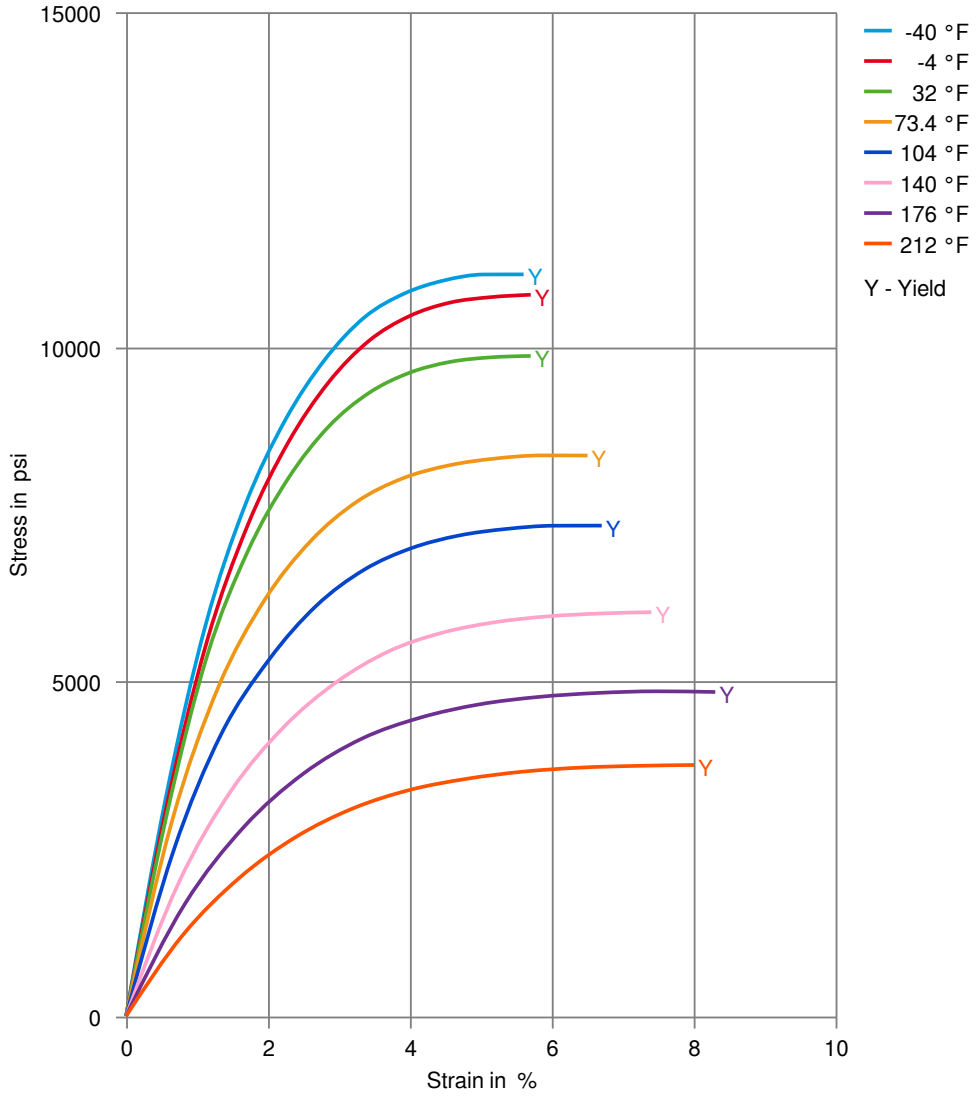
Shearstress-shear rate



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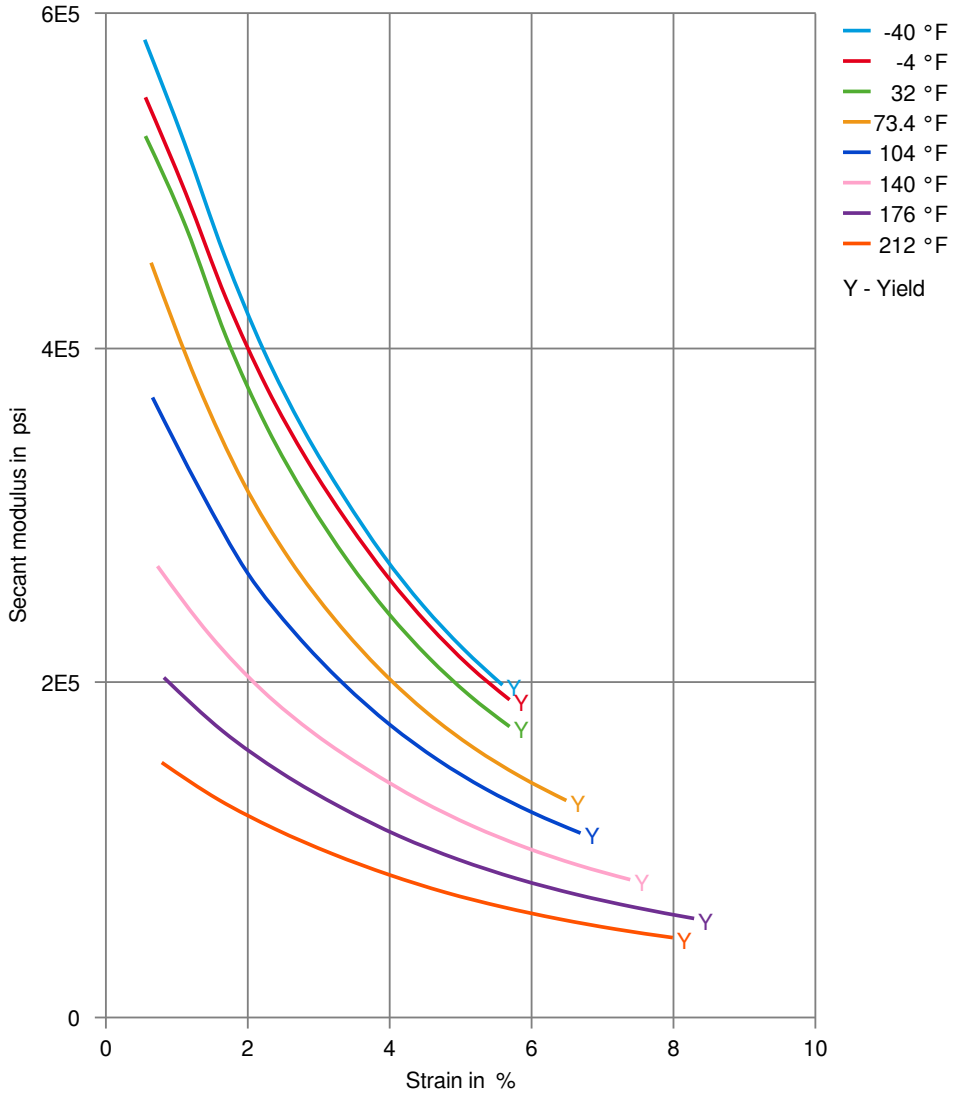
Stress-strain



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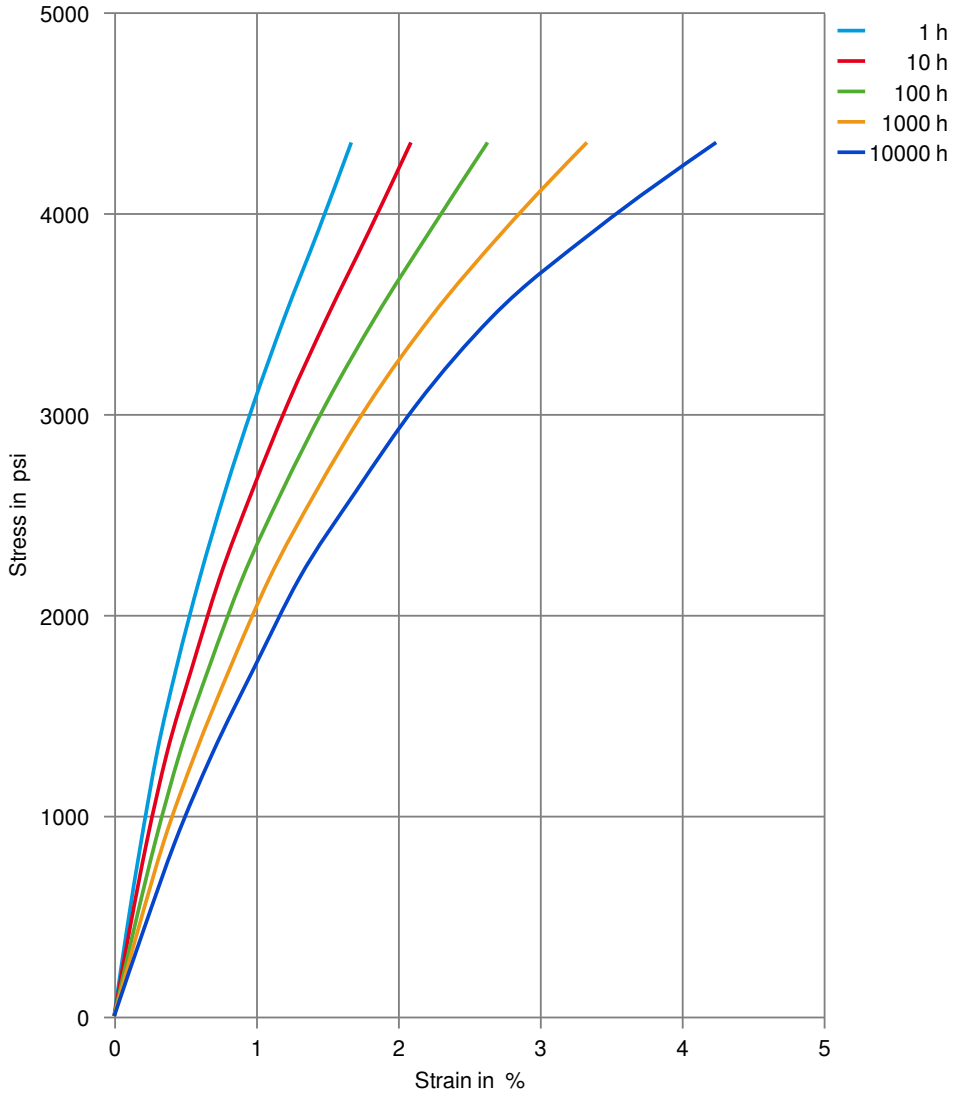
Secant modulus-strain



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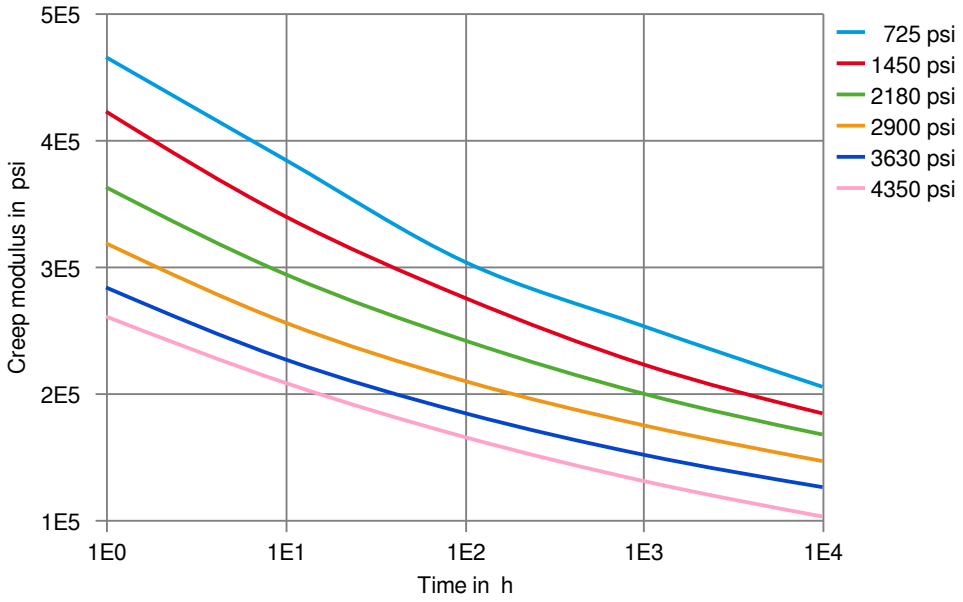
Stress-strain (isochronous) 73.4 °F



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Creep modulus-time 73.4 °F



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NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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