

TENITE™ cellulose acetate propionate

HT Series 380, 381, 385

Selector chart

Plastics made from wood pulp—a renewable resource

Tenite™ cellulose acetate propionate

HT Series 380, 381, 385

Property ^a	Unit	ASTM method	8	10	13	15	18	
Plasticizer	%	—	8	10	13	15	18	
Flow designation		D569	H4	H3	H2	H	MH	
Flow temperature	°C	D569	170	165	160	155	150	
	°F		338	329	320	311	302	
Specific gravity		D792	1.21	1.20	1.20	1.19	1.19	
Mechanical								
Tensile stress @ yield 50 mm/min (2 in./min)	MPa	D638	40.7	37.2	31.7	26.9	22.1	
	psi		5,900	5,400	4,600	3,900	3,200	
Tensile stress @ break 50 mm/min (2 in./min)	MPa	D638	42.7	37.9	33.1	31.0	27.6	
	psi		6,200	5,500	4,800	4,500	4,000	
Elongation @ break 50 mm/min (2 in./min)	%	D638	50	45	40	35	35	
Flexural modulus 1.27 mm/min (0.05 in./min)	MPa	D790	1,862	1,724	1,551	1,344	1,172	
	10 ⁵ psi		2.70	2.50	2.25	1.95	1.70	
Flexural yield strength 1.27 mm/min (0.05 in./min)	MPa	D790	55.8	48.3	41.4	35.2	29.0	
	psi		8,100	7,000	6,000	5,100	4,200	
Rockwell hardness	R scale	D785	98	94	84	72	55	
Izod impact strength, notched	23°C	J/m	D256	246	304	363	443	523
	73°F	ft•lbf/in.		4.6	5.7	6.8	8.3	9.8
	-40°C	J/m		69	75	85	96	107
	-40°F	ft•lbf/in.		1.3	1.4	1.6	1.8	2.0
Thermal								
Deflection temperature (conditioned 4 h @ 70°C [158°F])	1.82 MPa	°C	D648	84	80	76	71	67
	264 psi	°F		183	176	169	160	153
	0.455 MPa	°C		93	88	84	80	77
	66 psi	°F		199	190	183	176	171
Vicat softening temperature (conditioned 4 h @ 70°C [158°F])	°C	D1525	107	102	96	92	87	
	°F		225	216	205	198	189	
Permanence								
Water absorption (24 h immersion)	%	D570	1.8	1.7	1.6	1.5	1.4	
Soluble matter loss	%		0.1	0.1	0.1	0.1	0.1	
Weight loss on heating (72 h @ 80°C [176°F])	%	D1562	0.2	0.3	0.4	0.7	1.0	

^aUnless noted otherwise, all tests are run @ 23°C (73°F) and 50% relative humidity.

Formula 380—base

Formula 381—UVI

Formula 385—mold release

Miscellaneous propionate properties	
Refractive index (ASTM D542)	1.46–1.49
Light transmission (1.52-mm [0.06-in.] thickness) (ASTM E308)	>90%
UV-light screening (>99% absorbed) (ASTM E308)	Formulations available on request.
Haze (1.52-mm [0.06-in.] thickness) (ASTM D1003)	<8.5%
Specific heat @ 23°C (73°F) (DSC)	1.26–1.67 kJ/kg•K (0.301–0.399 Btu/lb•°F)
Thermal conductivity (ASTM C177)	0.17–0.33 W/m•K (1.2–2.3 Btu•in./h•ft ² •°F)
Coefficient of linear thermal expansion (ASTM D696)	11–17 x 10 ⁻⁵ mm/mm•°C (6–9 x 10 ⁻⁵ in./in.°F)
Mold shrinkage (ASTM D955)	0.2%–0.6%
Dielectric strength (ASTM D149)	11.8–18.7 kV/mm (300–475 V/mil)
Dielectric constant @ 1 MHz (ASTM D150)	3.3–3.8
Dissipation factor @ 1 MHz (ASTM D150)	0.01–0.15
Volume resistivity (ASTM D257)	10 ¹³ –10 ¹⁵ ohm•cm

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

Conversions of metric/U.S. customary values may have been rounded off and therefore may not be exact conversions.



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