TENAC®-C PROPERTIES (ASTM)

Items	Test method	Units	Grade	Standard Grade				
				High Viscosity	Medium Viscosity		High Flowability	
				3510	4520	5520	7520	8520
Specific gravity		D 792	–	1.41	1.41	1.41	1.41	1.41
Water absorption		D 570	%	0.2	0.2	0.2	0.2	0.2
Mechanical	Tensile strength	D 638	MPa	61	61	61	61	61
	Tensile elongation	D 638	%	75	60	55	50	45
	Flexural strength	D 790	MPa	88	88	88	90	90
	Flexural modulus	D 790	MPa	2600	2600	2620	2630	2630
	Izod impact strength(notched)	D 256	J/m	78	59	59	59	39
	Rockwell hardness	D 785	M-scale	78	80	80	80	80
			R-scale	–	115	115	115	115
	Taber abrasion	D 1044	mg/1000times	14	14	14	14	14
Thermal	Melt index	D 1238	gr/10min	2.8	9	15	30	45
	Coefficient of linear expansion	(TMA)	$x10^{-5}$cm/cm•°C	10	10	10	10	10
	Heat distortion temperature	D 645	°C(1.82MPa)	110	110	110	110	110
			°C(0.45MPa)	158	158	158	158	158
Flammability		(UL 94)	–	HB	HB	HB	HB	HB
Mold shrinkage		(Asahi Kasei method)	%	1.6~2.0	1.6~2.0	1.6~2.0	1.6~2.0	1.6~2.0
Features				High-impact, high-elongation grade, with increased molecular weight.	Standard-flow grade, with minimized mold deposit.	Similar to 4520, but with higher flow and minimized mold deposit.	High-flow grade, with minimized mold deposit.	Superhigh-flow grade, with minimized mold deposit.

Items	Test method	Units	Grade	HC Series		High-Cycle	Weather-Resistant			
				Medium Viscosity	High Flowability	High Flowability	High Viscosity	Medium Viscosity		High Flowability
				HC450	HC750	7554	3513	4513	4563	7513
Specific gravity		D 792	–	1.41	1.41	1.41	1.41	1.41	1.41	1.41
Water absorption		D 570	%	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Mechanical	Tensile strength	D 638	MPa	65	65	60	60	60	60	60
	Tensile elongation	D 638	%	60	50	50	75	55	55	45
	Flexural strength	D 790	MPa	95	98	90	88	88	88	89
	Flexural modulus	D 790	MPa	2890	2990	2630	2600	2600	2600	2630
	Izod impact strength(notched)	D 256	J/m	69	59	39	69	59	59	59
	Rockwell hardness	D 785	M-scale	–	–	80	78	80	80	80
			R-scale	–	–	115	–	115	115	115
	Taber abrasion	D 1044	mg/1000times	–	–	14	14	14	14	14
Thermal	Melt index	D 1238	gr/10min	8	30	30	3	9	9	30
	Coefficient of linear expansion	(TMA)	$x10^{-5}$cm/cm•°C	–	–	10	10	10	10	10
	Heat distortion temperature	D 645	°C(1.82MPa)	124	124	110	110	110	110	110
			°C(0.45MPa)	163	163	158	158	158	158	158
Flammability		(UL 94)	–	HB	HB	HB	–	–	–	–
Mold shrinkage		(Asahi Kasei method)	%	1.6~2.0	1.6~2.0	1.5~1.9	1.6~2.0	1.6~2.0	1.6~2.0	1.6~2.0
Features				New Copolymer, the improvement of physical properties of standerdgrades.		High-flow grade, with properties necessary for VCR reels.	Weather-Resistant grade containing UV absorber and other additives for superior weatherability.			

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TENAC®-C PROPERTIES (ASTM)

Items		Test method	Units	Grade	Glass-Reinforced		Carbon-Fiber Reinforced	
					Medium Viscosity	High Flowability		
					GN455	GN755	CF452	CF454
Specific gravity		D 792	–		1.59	1.59	1.43	1.46
Water absorption		D 570	%		0.2	0.2	0.2	0.2
Mechanical	Tensile strength	D 638	MPa		137	137	113	147
	Tensile elongation	D 638	%		7	6	5	4
	Flexural strength	D 790	MPa		216	216	167	196
	Flexural modulus	D 790	MPa		7550	7840	7350	14210
	Izod impact strength(notched)	D 256	J/m		98	98	39	39
	Rockwell hardness	D 785	M-scale		79	79	90	104
			R-scale		115	–	–	–
	Taber abrasion	D 1044	mg/1000times		14	–	–	–
Thermal	Melt index	D 1238	gr/10min		4	8	5	4
	Coefficient of linear expansion	(TMA)	x10^{-5}cm/cm•°C		4/9	4/9	6/9	4/9
	Heat distortion temperature	D 645	°C(1.82MPa)		163	163	140	164
			°C(0.45MPa)		166	166	162	166
Flammability		(UL 94)	–		HB	HB	HB	HB
Mold shrinkage		(Asahi Kasei method)	%		0.4~0.6/1.0~1.2	0.4~0.6/1.0~1.2	0.3~0.6/0.8~1.2	0.1~0.2/0.6~0.8
Features					25% GF-filled, high-flow grades, with high stiffness and superior dimensional stability.		10% carbon fiber-filled, high-stiffness, high-strength grade with antistatic properties.	20% carbon fiber-filled, high-stiffness, high-strength grade with antistatic properties.

Items		Test method	Units	Grade	Mineral Reinforced	Electro Conductive	High Lubricity	
							High Flowability	High Viscosity
					MT754	TFC64	LD755	LT350
Specific gravity		D 792	–		1.58	1.37	1.52	1.41
Water absorption		D 570	%		0.2	0.2	0.2	0.2
Mechanical	Tensile strength	D 638	MPa		60	37	51	56
	Tensile elongation	D 638	%		7	3	9	70
	Flexural strength	D 790	MPa		108	68	87	78
	Flexural modulus	D 790	MPa		5880	2010	3200	2400
	Izod impact strength(notched)	D 256	J/m		39	39	29	79
	Rockwell hardness	D 785	M-scale		98	–	80	–
			R-scale		–	–	117	–
	Taber abrasion	D 1044	mg/1000times		–	–	–	–
Thermal	Melt index	D 1238	gr/10min		20	–	25	3
	Coefficient of linear expansion	(TMA)	x10^{-5}cm/cm•°C		6	–	–	10
	Heat distortion temperature	D 645	°C(1.82MPa)		150	123	130	95
			°C(0.45MPa)		163	160	159	150
Flammability		(UL 94)	–		HB	HB	HB	HB
Mold shrinkage		(Asahi Kasei method)	%		1.0~1.2	1.3~1.6	1.4~1.6	1.6~2.0
Features					20% inorganic-filled, high-stiffness, low-warp grade.	Volume resistivity 10^{0}~$10^{2}\Omega$ • cm	20% inorganic-filled, high-stiffness, low-warp grade.	Excellent friction and wear on metals.

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