

DENKA Heat Resistant ABS "MALECCA" Physical properties



Property	Test Methods	Conditions	Unit	K-090	K-096	K-100	K-200	K-300	K-400	K-510	K-600	K-700
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◆ISO Method

Melt Mass Flow Rate	ISO 1133	220deg.C 98N	g/10min	12	10	8	6	4	2	-	-	-
	-	265deg.C 98N		-	-	-	-	-	22	20	15	6
Tensile Modulus	ISO 527-1, -2	1mm/min	MPa	2,600	2,500	2,500	2,500	2,450	2,650	2,200	2,100	2,000
Tensile stress at yield		50mm/min	MPa	49	48	48	48	48	51	41	37	37
Tensile stress at break			MPa	38	38	38	39	40	45	38	37	37
Flexural Modulus	ISO 178	2mm/min	MPa	2,550	2,450	2,450	2,450	2,450	2,650	2,100	2,050	1,900
Flexural Strength			MPa	74	76	76	78	79	86	70	67	65
Charpy Impact Strength	ISO 179	Notched	kJ/m ²	22	21	20	19	16	13	12	13	7
Temp of deflection under load	ISO 75-1, -2	1.8MPa Flatwise	deg.C	87	90	93	95	100	104	107	112	126
Vicat Softening Temp	ISO 306	50N	deg.C	107	110	113	115	120	125	131	133	150
Rockwell Hardness	ISO 2039-2	R-scale	-	113	113	113	114	116	117	112	111	112
Density	ISO 1183	23 deg.C	kg/m ³	1,060	1,060	10,610	1,070	1,080	1,080	108	1,070	1,090

◆ASTM Method

Tensile Modulus	ASTM D-638	5mm/min	MPa	43	42	42	41	41	46	40	39	39
Flexural Modulus	ASTM D-790	15mm/min	MPa	2,450	2,350	2,350	2,350	2,250	2,750	2,050	1,950	1,850
Flexural Strength			MPa	72	74	74	75	75	83	71	64	63
Izod Impact Strength	ASTM D-256	Notched	J/m	216	206	196	196	176	142	157	146	69
Heat Deflection Temperature	ASTM D-648	1.8MPa Edgewise	deg.C	97	100	103	106	110	115	118	122	138
Vicat Softing Temperature	ASTM D-1525	50N	deg.C	107	110	113	116	120	126	129	134	151
Rockwell Hardness	ASTM D-785	R-scale	-	114	114	114	114	114	116	114	117	120
Density	ASTM D-792	23 deg.C	-	1.05	1.05	1.05	1.06	1.06	1.08	1.08	1.07	1.09

◆Other properties

Flammability	UL94 (UL File No.E49895)			HB	HB	HB	HB	HB	HB	HB	-	-
Molding Shrinkage	DENKA Method	2mmt	%	0.4~0.6	0.4~0.6	0.4~0.6	0.5~0.7	0.5~0.8	0.5~0.8	0.6~0.9	0.8~1.0	0.8~1.0

* The above values are typical and not guaranteed.

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◆ Processing Condition

Pre-drying Condition

Temperature [deg.C]	Time [hr]	Grade
90	3~4	K-090, K-096, K-100
90~100	3~4	K-200, K-300, K-400
100~110	3~4	K-510, K-600, K-700

Molding Condition

Cylinder temperature setting [deg.C]				Grade
C1	C2	C3	Nozzle	
200	210	220	220	K-090, K-096, K-100, K-200
∧	∧	∧	∧	
220	240	250	245	
210	220	230	230	K-300, K-400
∧	∧	∧	∧	
230	250	260	25	
220	230	240	240	K-510, K-600, K-700
∧	∧	∧	∧	
240	260	270	265	

Mold temperature : 50~80 [deg.C] (actual temperature of mold surface)

Screw rotation speed : 50~80 [rpm]

Back pressure : 5~10 [kg/cm²·G]