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FO R M O C O N®

物性一覽表

品 別			FM025	FM090	FM130	FM270	FM350	FM450
試 驗 項 目	單位	方法						
MI值	g/10min	D1238	2.5	9	13	27	35	45
比 重		D792	1.41	1.41	1.41	1.41	1.41	1.41
硬 度	M 刻度	D785	78	80	80	80	80	80
ROCKWELL	R 刻度	—	—	115	—	—	—	—
抗折強度	kgf/cm ²	D790	950	950	950	950	950	950
抗折彈性係數			26000	26000	26000	26000	26000	26000
拉伸強度	降伏點	Kgf/cm ²	D638	610	620	620	620	620
延伸率	斷裂點	%		75	60	55	45	40
壓縮強度	1%變形	kgf/cm ²	D695	320	320	320	320	320
	10%變形			1100	1100	1100	1100	1100
衝擊強度	凹側23℃ 50%RH	kgf/cm ²	D256	7.6	6.5	6	5.4	5.1
吸水率	23℃水中 24小時浸泡	%	D570	0.22	0.22	0.22	0.22	0.22
耐熱性 (UL94)		UL94	HB	HB	HB	HB	HB	HB
成型收縮率 (3mm, 4in圓盤)	%			1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2
熱變形溫度	18.6kgf/cm ²	℃	D648	110	110	110	110	110
熱變形溫度	4.6kgf/cm ²	℃	D648	158	158	158	158	158
線膨脹係數		Cm/cm℃x10 ⁵	D696	8.45	8.45	8.45	8.45	8.45
熔 點		℃	DSC	165	165	165	165	165
VICAT軟化點		℃	D1525	162	162	162	162	162
體積電阻係數23℃50% RH		Ω.cm	D257	1x10 ¹⁴	1x10 ¹⁴	1x10 ¹⁴	1x10 ¹⁴	1x10 ¹⁴
表面電阻係數23℃50% RH		Ω	D257	1x10	1x10	1x10	1x10	1x10 ¹⁶
介電常數	50HZ	ISO		3.8 ¹⁶	3.8 ¹⁶	3.8 ¹⁶	3.8 ¹⁶	3.9
	1KHZ	IEC250		3.8	3.8	3.8	3.8	3.8
	1MHZ			3.8	3.8	3.8	3.8	3.8
絕緣強度(2mm)	KV/mm	D149	24	24	24	24	24	24

※ 表中數據照上列試驗方法側得之參考值，僅供客戶選擇適當品類之用

品別、用途一覽表

品別	特性	用途
FM025	高黏度，低模垢，押出厚斷面射出	素材押出、其他押出品
FM090	標準流動性，低模垢	扣具按扣，管件及五金，齒輪，電子零件，汽車零件，家庭電器，軸承，其他射出零件
FM130	中流動性，低模垢 加工性優異	扣具按扣，拉鍊，管件及五金，齒輪，軸承，電子零件，汽車零件，家庭電器，其他射出零件
FM270 FM350	高流動性，低模垢 加工性優異	按扣，拉鍊，齒輪，電子零件，汽車零件，家庭電器，其他小型機器零件
FM450	超高流動性，低模垢	按扣，拉鍊，齒輪，電子零件，汽車零件，家庭電器，其他小型機器零件

PRINCIPLE PHYSICAL PROPERTIES OF ACETAL COPOLYMER

Grade			FM025	FM090	FM130	FM270	FM350	FM450
Property	Unit	ASTM						
MI Value	g/10min	D1238	2.5	9	13	27	35	45
Specific Gravity		D792	1.41	1.41	1.41	1.41	1.41	1.41
Rockwell Hardness	M Scale	D785	78	80	80	80	80	80
ROCKWELL	R Scale	—	—	115	—	—	—	—
Flexural Strength	kgf/cm ²	D790	950	950	950	950	950	950
Flexural Modulus	kgf/cm ²		26000	26000	26000	26000	26000	26000
Tensile Strength at yield point	Kgf/cm ²	D638	610	620	620	620	620	620
Tensile Elongation at break point	%		75	60	55	45	40	35
Compressive 1% Deformation	kgf/cm2	D695	320	320	320	320	320	320
Stress 10% Deformation			1100	1100	1100	1100	1100	1100
Izod Impact V-notched23℃	kgf/cm ²	D256	7.6	6.5	6	5.4	5.1	4.5
Strength 50% RH								
Water 23℃	%	D570	0.22	0.22	0.22	0.22	0.22	0.22
Absorption (69%) RH								
Flammability (UL94)		UL94	HB	HB	HB	HB	HB	HB
Mold Shrinkage (3mm t, 4in disk)	%		1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2	1.8-2.2
Heat Deflection 18.6kgf/cm ²	℃	D648	110	110	110	110	110	110
Temperature 4.6kgf/cm ²	℃	D648	158	158	158	158	158	158
Linear Expansion Factor	Cm/cm℃x10	D696	8.45	8.45	8.45	8.45	8.45	8.45
Melting Point	℃ ⁻⁵	DSC	165	165	165	165	165	165
Vicat Softing Temp.	℃	D1525	162	162	162	162	162	162
Volume Resistivity 23℃50% RH	Ω.cm	D257	1x10 ¹⁴	1x10 ¹⁴	1x10 ¹⁴	1x10 ¹⁴	1x10 ¹⁴	1x10 ¹⁴
Surface Resistivity 23℃50% RH	Ω	D257	1x10	1x10 ¹⁶	1x10 ¹⁶	1x10 ¹⁶	1x10 ¹⁶	1x10 ¹⁶
Dielectric Constant	50HZ	ISO	3.8 ¹⁶	3.8	3.8	3.8	3.8	3.9
	1KHZ	IEC250	3.8	3.8	3.8	3.8	3.8	3.8
	1MHZ		3.8	3.8	3.8	3.8	3.8	3.8
Dielectric Breakdown Strength (2mm)	KV/mm	D149	24	24	24	24	24	24

NOTE: Above data are shown for reference only.

FEATURE AND APPLICATIONS OF GRADES

Grade	Feature	Application
FM025	High-viscosity Extrusion, Minimal mold	Extruded rods and sheets, Other extrusion parts
FM090	Standard-flow Minimal mold	Buttons and press-in fasteners, Plumbing and hardware, Gears, Electronic parts, Automotive parts, Household appliances, Bearing, Other injection parts
FM130	Medium-flow Minimal mold	Buttons and press-in fasteners, Zippers, Plumbing and hardware, Gears, Bearing, Electronic parts, Automotive parts, Household appliances, Other injection parts
FM270 FM350	High-flow Minimal mold	Press-in fasteners, Zippers, Gears, Electronic parts, Automotive parts, Household appliances, Others small mechanical parts
FM450	Superhigh-flow	Press-in fasteners, Zippers, Gears, Electronic parts, Automotive parts, Household appliances, Others small mechanical parts