

## Cycolac\* Resin S858

### Europe-Africa-Middle East: COMMERCIAL

S858 is a high heat resistant extrusion and blow moulding grade. It combines a high melt strength and good forming characteristics, with an excellent surface finish quality and a good thermal and color stability.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>MECHANICAL</b>			
Taber Abrasion, CS-17, 1 kg	110	mg/1000cy	SABIC Method
Tensile Stress, yield, 5 mm/min	50	MPa	ISO 527
Tensile Stress, break, 5 mm/min	35	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	5	%	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	78	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
Hardness, H358/30	99	MPa	ISO 2039-1
Hardness, Rockwell R	113	-	ISO 2039-2
<b>IMPACT</b>			
Izod Impact, notched 80*10*4 +23°C	24	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	21	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, 23°C to 60°C, flow	8.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	8.E-05	1/°C	ISO 11359-2

<sup>1</sup> Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 230C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

<sup>2</sup> Only typical data for material selection purpose. Not to be used for part or tool design.  
<sup>3</sup> This rating is not intended to reflect hazards presented this or any other material under actual fire conditions.  
<sup>4</sup> Own measurement according to UL.  
<sup>5</sup> Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Dongguan Yi-Ming Plastic Chemical Co., Ltd.

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<b>THERMAL</b>			
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	107	°C	ISO 306
Vicat Softening Temp, Rate B/120	110	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	97	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	86	°C	ISO 75/Ae
<b>PHYSICAL</b>			
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.5 - 0.7	%	SABIC Method
Density	1.05	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	1	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62
Melt Flow Rate, 220°C/10.0 kg	1	g/10 min	ISO 1133
Melt Volume Rate, MVR at 220°C/10.0 kg	2	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	26	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	18	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	2.7	-	IEC 60250
Relative Permittivity, 1 MHz	2.6	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.006	-	IEC 60250
Dissipation Factor, 1 MHz	0.009	-	IEC 60250
Comparative Tracking Index	575	V	IEC 60112
<b>FLAME CHARACTERISTICS</b>			
UL Compliant, 94HB Flame Class Rating (3)(4)	1.6	mm	UL 94 by GE
Glow Wire Flammability Index 650°C, passes at	3.2	mm	IEC 60695-2-12

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>FLAME CHARACTERISTICS</b>			
FMVSS Burning Speed, thickness 3 mm	22	mm/min	FMVSS 302

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
<b>Profile Extrusion</b>		
Drying Temperature	80 - 90	°C
Drying Time	2 - 4	hrs
Melt Temperature	190 - 230	°C
Barrel - Zone 1 Temperature	180 - 205	°C
Barrel - Zone 2 Temperature	190 - 215	°C
Barrel - Zone 3 Temperature	200 - 230	°C
Barrel - Zone 4 Temperature	200 - 230	°C
Hopper Temperature	60 - 80	°C
Adapter Temperature	200 - 230	°C
Die Temperature	190 - 220	°C
Calibrator Temperature	60 - 80	°C

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