

## QAMAR RESIN PROPERTIES

Item	Grade		HB18N	FC21HS	FC21HN	FC20H	FC18N	FD21HS	FD21HN	FD18N	CD18N
	Test Method	Unit									
MI	ISO 1872-2	g/10min	0.5	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.8
Density	ASTM D4883	g/cm <sup>3</sup>	0.918	0.918	0.918	0.918	0.918	0.918	0.918	0.918	0.918
Tensile Stress at Yield	ISO 1872-2	MPa	9	9	9	9	9	9	9	9	9
Nominal Tensile Strain at Break	ISO 1872-2	%	>430	>430	>430	>430	>430	>430	>430	>430	>430
Flexural Modulus	ISO 1872-2	MPa	200	200	200	200	200	200	200	200	200
Durometer Hardness (type D)	ISO 868	—	55	55	55	55	55	54	54	54	54
Brittleness Temperature	ISO 974	°C	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70
Melting Point	ISO 11357-3	°C	122	122	122	122	122	122	122	122	122
Vicat Softening Temperature	ISO 306	°C	102	102	102	102	102	100	100	100	99
Anti-Blocking Agent/ Slip Agent			—	●	●	●	—	●	●	—	—
Characteristics			High Strength	High Clarity	Standard Clarity	Higher Clarity Easy to Extrude	Basic Material	High Clarity	Standard Clarity	Basic Material	High Flow
Application			Heavy Duty Bag	General Purpose Blown Film			for Customer-made Additive Formulation	General Purpose Blown Film		for Customer-made Additive Formulation	Cast Film

## QAMAR FILM PROPERTIES

Item	Grade		HB18N	FC21HS	FC21HN	FC20H	FC18N	FD21HS	FD21HN	FD18N	CD18N
	Test Method	Unit									
MI	ISO 1872-2	g/10min	0.5	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.8
Density	ASTM D4883	g/cm <sup>3</sup>	0.918	0.918	0.918	0.918	0.918	0.918	0.918	0.918	0.918
Film Thickness	—	µm	30	30	30	30	30	30	30	30	30
Haze	ISO 14782	%	7	8	11	6	8	11	14	11	12
Dart Drop Impact	ISO 7765	g	130	120	120	110	120	110	110	110	100
Tensile Stress at Break	MD	ISO 527-3	MPa	60	55	55	45	55	40	40	35
	TD			45	40	40	35	40	35	35	30
Nominal Tensile Strain at Break	MD	ISO 527-3	%	500	550	550	500	550	600	600	600
	TD			850	850	850	800	850	900	900	900
Modulus of Elasticity in Tension	MD	ISO 527-3	MPa	200	190	190	200	190	190	190	190
	TD			230	220	220	230	220	210	210	210
Elmendorf Tear Strength	MD	ISO 6383-2	N/mm	30	30	30	20	30	30	30	30
	TD			170	160	160	160	160	140	140	140
Processing Conditions	Resin Temperature			200°C				180°C			
	Blow up Ratio			2.0							
	Extruder			40mmØ, L/D=24							
	Die Diameter			75mmØ							