Makrolon® DQ5142 RE

PC — Covestro Deutschland AG

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**34**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
Molding shrinkage, parallel	**0.7**	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.7**	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**2300**	MPa	ISO 527
Yield stress	**65**	MPa	ISO 527
Yield strain	**6**	%	ISO 527
Nominal strain at break	**>50**	%	ISO 527
Stress at break	**60**	MPa	ISO 527
Strain at break	**110**	%	ISO 527
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C, 3mm	**12**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C, 3mm	**12**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Puncture - maximum force, +23°C	**4900**	N	ISO 6603-2
Puncture - maximum force, -30°C	**5900**	N	ISO 6603-2
Puncture energy, +23°C	**44**	J	ISO 6603-2
Puncture energy, -30°C	**50**	J	ISO 6603-2
Ball indentation hardness	**120**	MPa	ISO 2039-1

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**120**	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	**134**	°C	ISO 75-1/-2
Vicat softening temperature, B	**140**	°C	ISO 306
Burning behav. at thickness h	**V-2**	class	IEC 60695-11-10
Thickness tested	**0.8**	mm	-
Yellow Card available	**yes**	-	-
Glow Wire Flammability Index (GWFI)	**850**	°C	IEC 60695-2-12
GWFI - thickness tested (1)	**0.75**	mm	-
Glow Wire Flammability Index (GWFI)	**850**	°C	IEC 60695-2-12
GWFI - thickness tested (2)	**1.5**	mm	-
Glow Wire Flammability Index (GWFI)	**930**	°C	IEC 60695-2-12
GWFI - thickness tested (3)	**3**	mm	-
Glow Wire Ignition Temperature (GWIT)	**850**	°C	IEC 60695-2-13
GWIT - thickness tested (1)	**0.75**	mm	-
Glow Wire Ignition Temperature (GWIT)	**850**	°C	IEC 60695-2-13
GWIT - thickness tested (2)	**1.5**	mm	-
Glow Wire Ignition Temperature (GWIT)	**850**	°C	IEC 60695-2-13
GWIT - thickness tested (3)	**3**	mm	-

Optical properties	Value	Unit	Test Standard
ISO Data			
Haze	**100**[1]	-	ISO 14782
Luminous transmittance	**80**[1]	%	ISO 13468-1, -2

1: 1 mm

Other properties	Value	Unit	Test Standard
Water absorption	**0.3**	%	Sim. to ISO 62
Humidity absorption	**0.12**	%	Sim. to ISO 62

Density	**1200**	kg/m³	ISO 1183

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	**280**	°C	ISO 294
Injection Molding, mold temperature	**80**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**120**	°C	-
Pre-drying - Time	**2 - 3**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**250 - 300**	°C	-
Mold temperature	**80 - 120**	°C	-
Zone 1	**230 - 240**	°C	-
Zone 2	**250 - 260**	°C	-
Zone 3	**260 - 270**	°C	-
Nozzle temperature	**260 - 270**	°C	-
Back pressure	**5 - 15**	MPa	-

Characteristics

Processing
Injection Molding

Features
Light Diffusing

Additives
Release agent

Certifications
Contains renewable resources, ISCC Plus

Special Characteristics
U.V. stabilized or stable to weather, Translucent

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa