Property Data



Print Date: 2024-04-10

Akulon[®] Ultraflow XG-FKGS6

PA6-GF30 FR(40)

30% Glass Reinforced, Flame Retardant (halogen free)

RHEOLOGICAL PROPERTIESDRY / CONDMolding shrinkage [parallel] $0.2 / \cdot$ %Sim. to ISO 294-4Molding shrinkage [normal] $0.6 / \cdot$ %Sim. to ISO 294-4MECHANICAL PROPERTIESDRY / CONDTensile modulus11500 / 7500MPaISO 527-1/-2Stress at break140 / 90MPaISO 527-1/-2Strain at break2.7 / 4%ISO 527-1/-2Flexural modulus11200 / 7850MPaISO 527-1/-2Flexural strength2.30 / 160MPaISO 178Flexural strength2.30 / 160MPaISO 178Charpy impact strength (+23°C)60 / 60kJ/m²ISO 179/16UCharpy notohed impact strength (+23°C)9 / 12kJ/m²ISO 179/16ACharpy notohed impact strength (-30°C)9.5 / 9kJ/m²ISO 179/16ACharpy notohed impact strength (-30°C)9.5 / 9kJ/m²ISO 179/16ATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min)220 / · °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)205 / · °CISO 11359-1/-2Coeff. of linear therm. expansion (parallel)0.2 / ·E-4/°CISO 11359-1/-2Coeff. of linear therm. expansion (normal)0.7 / ·E-4/°CISO 11359-1/-2Coeff. of linear therm. expansion (normal)0.7 / ·E-4/°CISO 11359-1/-2Thermal conductivity through plane0.4W/(m k)ASTM E1461Eurning Behav. at 1.5 mn nom, thickn.V-0 / ·classIEC 60695-11-10 <tr <td=""></tr>	PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Molding shrinkage [normal] 0.6 / · % Sim. to ISO 294–4 MECHANICAL PROPERTIES DRY / COND Iso 527–1/–2 Stress at break 140 / 90 MPa ISO 527–1/–2 Stress at break 140 / 90 MPa ISO 527–1/–2 Strain at break 2.7 / 4 % ISO 527–1/–2 Strain at break 2.7 / 4 % ISO 527–1/–2 Flexural modulus 11200 / 7850 MPa ISO 178 Flexural strength 230 / 160 MPa ISO 178 Charpy impact strength (+23°C) 60 / 60 kJ/m² ISO 179/1eU Charpy impact strength (-30°C) 55 / 45 kJ/m² ISO 179/1eU Charpy notched impact strength (+23°C) 9 / 12 kJ/m² ISO 179/1eU Charpy notched impact strength (-30°C) 9.5 / 9 kJ/m² ISO 179/1eA Charpy notched impact strength (-30°C) 9.5 / 9 kJ/m² ISO 11357–1/–3 Temp, of deflection under load (1.80 MPa) 206 / * °C ISO 11357–1/–2 Coeff. of linear therm. expansion (parallel) 0.2 / * E-4/°C	RHEOLOGICAL PROPERTIES	DRY / COND		
MECHANICAL PROPERTIESDRY / CONDTensile modulus11500 / 7500MPaISO 527-1/-2Stress at break140 / 90MPaISO 527-1/-2Strain at break2.7 / 4%ISO 527-1/-2Elexural modulus11200 / 7850MPaISO 178Flexural strength230 / 160MPaISO 178Charpy impact strength (+23°C)60 / 60kJ/m²ISO 179/1eUCharpy impact strength (-30°C)55 / 45kJ/m²ISO 179/1eUCharpy notched impact strength (-30°C)9 / 12kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 11357-1/-3THERMAL PROPERTIESDRY / CONDMetting temperature (10°C/min)220 / *°CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)205 / *°CISO 11359-1/-2Coeff. of linear therm. expansion (parallel)0.2 / *E-4/°CISO 11359-1/-2Coeff. of linear therm. expansion (normal)0.7 / *E-4/°CISO 11359-1/-2Thermal conductivity in plane0.44W/(m K)ASTM E1461Thermal conductivity through plane0.4W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn.V-0 / *classIEC 60695-11-10	Molding shrinkage [parallel]	0.2 / *	%	Sim. to ISO 294–4
Tensile modulus 11500 / 7500 MPa ISO 527-1/-2 Stress at break 140 / 90 MPa ISO 527-1/-2 Strain at break 2.7 / 4 % ISO 527-1/-2 Flexural modulus 11200 / 7850 MPa ISO 527-1/-2 Flexural modulus 11200 / 7850 MPa ISO 527-1/-2 Flexural strength 230 / 160 MPa ISO 178 Charpy impact strength (+23°C) 60 / 60 kJ/m² ISO 179/1eU Charpy impact strength (-30°C) 55 / 45 kJ/m² ISO 179/1eU Charpy inpact strength (-30°C) 9 / 12 kJ/m² ISO 179/1eU Charpy notched impact strength (+23°C) 9 / 12 kJ/m² ISO 179/1eA Charpy notched impact strength (-30°C) 95 / 9 kJ/m² ISO 179/1eA Charpy notched impact strength (-30°C) 95 / 9 kJ/m² ISO 179/1eA THERMAL PROPERTIES DRY / COND ISO 11357-1/-3 Iso 179/1eA Melting temperature (10°C/min) 220 / * °C ISO 11359-1/-2 Coeff. of linear therm. expansion (parallel) 0.2 / * E-4/°C ISO 11359-1/-2 Coeff. of linear	Molding shrinkage [normal]	0.6 / *	%	Sim. to ISO 294–4
Tensile modulus 11500 / 7500 MPa ISO 527-1/-2 Stress at break 140 / 90 MPa ISO 527-1/-2 Strain at break 2.7 / 4 % ISO 527-1/-2 Flexural modulus 11200 / 7850 MPa ISO 527-1/-2 Flexural modulus 11200 / 7850 MPa ISO 527-1/-2 Flexural strength 230 / 160 MPa ISO 178 Charpy impact strength (+23°C) 60 / 60 kJ/m² ISO 179/1eU Charpy impact strength (-30°C) 55 / 45 kJ/m² ISO 179/1eU Charpy inpact strength (-30°C) 9 / 12 kJ/m² ISO 179/1eU Charpy notched impact strength (+23°C) 9 / 12 kJ/m² ISO 179/1eA Charpy notched impact strength (-30°C) 95 / 9 kJ/m² ISO 179/1eA Charpy notched impact strength (-30°C) 95 / 9 kJ/m² ISO 179/1eA THERMAL PROPERTIES DRY / COND ISO 11357-1/-3 Iso 179/1eA Melting temperature (10°C/min) 220 / * °C ISO 11359-1/-2 Coeff. of linear therm. expansion (parallel) 0.2 / * E-4/°C ISO 11359-1/-2 Coeff. of linear				
Stress at break140 / 90MPaISO 527-1/-2Strain at break2.7 / 4%ISO 527-1/-2Flexural modulus11200 / 7850MPaISO 178Flexural strength230 / 160MPaISO 178Charpy impact strength (+23°C)60 / 60kJ/m²ISO 179/1eUCharpy impact strength (-30°C)55 / 45kJ/m²ISO 179/1eUCharpy notched impact strength (+23°C)9 / 12kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDNelting temperature (10°C/min)220 / *°CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)205 / *°CISO 11359-1/-2Coeff. of linear therm. expansion (parallel)0.2 / *E-4/°CISO 11359-1/-2Coeff. of linear therm. expansion (normal)0.7 / *E-4/°CISO 11359-1/-2Thermal conductivity in plane0.45W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn.V-0 / *classIEC 60695-11-10	MECHANICAL PROPERTIES	DRY / COND		
Strain at break $2.7/4$ %ISO 527-1/-2Flexural modulus11200 / 7850MPaISO 178Flexural strength230 / 160MPaISO 178Charpy impact strength (+23°C)60 / 60kJ/m²ISO 179/1eUCharpy impact strength (-30°C)55 / 45kJ/m²ISO 179/1eUCharpy notched impact strength (+23°C)9 / 12kJ/m²ISO 179/1eUCharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min)220 / *°CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)205 / *°CISO 11359-1/-2Coeff. of linear therm. expansion (parallel)0.2 / *E-4/°CISO 11359-1/-2Coeff. of linear therm. expansion (normal)0.7 / *E-4/°CISO 11359-1/-2Thermal conductivity in plane0.45W/(m K)ASTM E1461Thermal conductivity through plane0.4W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn.V-0 / *classIEC 60695-11-10	Tensile modulus	11500 / 7500	MPa	ISO 527-1/-2
Flexural modulus11200 / 7850MPaISO 178Flexural strength230 / 160MPaISO 178Charpy impact strength (+23°C)60 / 60kJ/m²ISO 179/1eUCharpy impact strength (-30°C)55 / 45kJ/m²ISO 179/1eUCharpy notched impact strength (+23°C)9 / 12kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min)220 / *°CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)205 / *°CISO 11359-1/-2Coeff. of linear therm. expansion (parallel)0.2 / *E-4/°CISO 11359-1/-2Coeff. of linear therm. expansion (normal)0.7 / *E-4/°CISO 11359-1/-2Thermal conductivity in plane0.45W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn.V-0 / *classIEC 60695-11-10	Stress at break	140 / 90	MPa	ISO 527-1/-2
Flexural strength230 / 160MPaISO 178Charpy impact strength (+23°C)60 / 60kJ/m²ISO 179/1eUCharpy impact strength (-30°C)55 / 45kJ/m²ISO 179/1eUCharpy notched impact strength (+23°C)9 / 12kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)9.5 / 9kJ/m²ISO 179/1eATHERMAL PROPERTIESMelting temperature (10°C/min)220 / *°CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)205 / *°CISO 11359-1/-2Coeff. of linear therm. expansion (parallel)0.2 / *E-4/°CISO 11359-1/-2Coeff. of linear therm. expansion (normal)0.7 / *E-4/°CISO 11359-1/-2Thermal conductivity in plane0.45W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn.V-0 / *classIEC 60695-11-10	Strain at break	2.7 / 4	%	ISO 527-1/-2
Charpy impact strength (+23°C) $60 / 60$ kJ/m²ISO 179/1eUCharpy impact strength (-30°C) $55 / 45$ kJ/m²ISO 179/1eUCharpy notched impact strength (+23°C) $9 / 12$ kJ/m²ISO 179/1eACharpy notched impact strength (-30°C) $9.5 / 9$ kJ/m²ISO 179/1eACharpy notched impact strength (-30°C) $9.5 / 9$ kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min) $220 / *$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa) $205 / *$ °CISO 11359-1/-2Coeff. of linear therm. expansion (parallel) $0.2 / *$ $E-4/°C$ ISO 11359-1/-2Coeff. of linear therm. expansion (normal) $0.7 / *$ $E-4/°C$ ISO 11359-1/-2Thermal conductivity in plane 0.45 W/(m K)ASTM E1461Thermal conductivity through plane 0.4 W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn. $V-0 / *$ classIEC 60695-11-10	Flexural modulus	11200 / 7850	MPa	ISO 178
Charpy impact strength (-30°C) $55 / 45$ kJ/m²ISO 179/1eUCharpy notched impact strength (+23°C) $9 / 12$ kJ/m²ISO 179/1eACharpy notched impact strength (-30°C) $9.5 / 9$ kJ/m²ISO 179/1eATHERMAL PROPERTIESMelting temperature (10°C/min) $220 / *$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa) $205 / *$ °CISO 11359-1/-2Coeff. of linear therm. expansion (parallel) $0.2 / *$ $E-4/°C$ ISO 11359-1/-2Coeff. of linear therm. expansion (normal) $0.7 / *$ $E-4/°C$ ISO 11359-1/-2Thermal conductivity in plane 0.44 W/(m K)ASTM E1461Thermal conductivity through plane 0.4 W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn. $V-0 / *$ classIEC 60695-11-10	Flexural strength	230 / 160	MPa	ISO 178
$\begin{array}{c c} Charpy notched impact strength (+23°C) & 9 / 12 & kJ/m^2 & ISO 179/1eA \\ \hline Charpy notched impact strength (-30°C) & 9.5 / 9 & kJ/m^2 & ISO 179/1eA \\ \hline \\ $	Charpy impact strength (+23°C)	60 / 60	kJ/m²	ISO 179/1eU
Charpy notched impact strength (-30°C) $9.5 / 9$ kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min) $220 / *$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa) $205 / *$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.2 / *$ $E-4/°C$ ISO 11359-1/-2Coeff. of linear therm. expansion (normal) $0.7 / *$ $E-4/°C$ ISO 11359-1/-2Thermal conductivity in plane 0.45 W/(m K)ASTM E1461Thermal conductivity through plane 0.4 W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn. $V-0 / *$ classIEC 60695-11-10	Charpy impact strength (-30°C)	55 / 45	kJ∕m²	ISO 179/1eU
THERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min) $220 / *$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa) $205 / *$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.2 / *$ $E-4/°C$ ISO 11359-1/-2Coeff. of linear therm. expansion (normal) $0.7 / *$ $E-4/°C$ ISO 11359-1/-2Thermal conductivity in plane 0.45 W/(m K)ASTM E1461Thermal conductivity through plane 0.4 W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn. $V-0 / *$ classIEC 60695-11-10	Charpy notched impact strength (+23°C)	9 / 12	kJ∕m²	ISO 179/1eA
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Melting temperature (10°C/min) $220 / *$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa) $205 / *$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.2 / *$ $E-4/°C$ ISO 11359-1/-2Coeff. of linear therm. expansion (normal) $0.7 / *$ $E-4/°C$ ISO 11359-1/-2Thermal conductivity in plane 0.45 $W/(m K)$ ASTM E1461Thermal conductivity through plane 0.4 $W/(m K)$ ASTM E1461Burning Behav. at 1.5 mm nom. thickn. $V-0 / *$ classIEC 60695-11-10				
Temp. of deflection under load (1.80 MPa) $205 / *$ $^{\circ}$ CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.2 / *$ $E-4/^{\circ}$ CISO 11359-1/-2Coeff. of linear therm. expansion (normal) $0.7 / *$ $E-4/^{\circ}$ CISO 11359-1/-2Thermal conductivity in plane 0.45 $W/(m K)$ ASTM E1461Thermal conductivity through plane 0.4 $W/(m K)$ ASTM E1461Burning Behav. at 1.5 mm nom. thickn. $V-0 / *$ classIEC 60695-11-10	THERMAL PROPERTIES	DRY / COND		
Coeff. of linear therm. expansion (parallel) $0.2 / *$ $E-4/^{\circ}C$ ISO 11359-1/-2Coeff. of linear therm. expansion (normal) $0.7 / *$ $E-4/^{\circ}C$ ISO 11359-1/-2Thermal conductivity in plane 0.45 $W/(m K)$ ASTM E1461Thermal conductivity through plane 0.4 $W/(m K)$ ASTM E1461Burning Behav. at 1.5 mm nom. thickn. $V-0 / *$ classIEC 60695-11-10	Melting temperature (10°C/min)	220 / *	°C	ISO 11357-1/-3
Coeff. of linear therm. expansion (normal)0.7 / *E-4/°CISO 11359-1/-2Thermal conductivity in plane0.45W/(m K)ASTM E1461Thermal conductivity through plane0.4W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn.V-0 / *classIEC 60695-11-10	Temp. of deflection under load (1.80 MPa)	205 / *	°C	ISO 75-1/-2
Thermal conductivity in plane0.45W/(m K)ASTM E1461Thermal conductivity through plane0.4W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn.V-0 / *classIEC 60695-11-10	Coeff. of linear therm. expansion (parallel)	0.2 / *	E−4/°C	ISO 11359-1/-2
Thermal conductivity through plane0.4W/(m K)ASTM E1461Burning Behav. at 1.5 mm nom. thickn.V-0 / *classIEC 60695-11-10	Coeff. of linear therm. expansion (normal)	0.7 / *	E−4/°C	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn. V-0 / * class IEC 60695-11-10	Thermal conductivity in plane	0.45	W/(m K)	ASTM E1461
	Thermal conductivity through plane	0.4	W/(m K)	ASTM E1461
Thickness tested 1.5 / * mm IEC 60695-11-10	Burning Behav. at 1.5 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
	Thickness tested	1.5 / *	mm	IEC 60695-11-10

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Property Data Akulon[®] Ultraflow XG-FKGS6

Print Date: 2024-04-10

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Burning Behav. at 3.0 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	3 / *	mm	IEC 60695-11-10
Burning Behav. at 0.4 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	mm	IEC 60695-11-10
Burning Behav. at 0.75 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.75 / *	mm	IEC 60695-11-10
Glow Wire Flammability Index GWFI	960 /	°C	IEC 60695-2-12
GWFI (Thickness (1) tested)	1.6 / -	mm	IEC 60695-2-12
Glow Wire Flammability Index GWFI	960 / -	°C	IEC 60695-2-12
GWFI (Thickness (2) tested)	0.8 / -	mm	IEC 60695-2-12
Glow Wire Ignition Temperature GWIT	775 / -	°C	IEC 60695-2-13
GWIT (Thickness (1) tested)	1.6 / -	mm	IEC 60695-2-13
Glow Wire Ignition Temperature GWIT	775 / -	°C	IEC 60695-2-13
GWIT (Thickness (2) tested)	1/-	mm	IEC 60695-2-13
ELECTRICAL PROPERTIES	DRY / COND		
Electric strength	40 / -	kV/mm	IEC 60243-1
Comparative tracking index	* / 600	V	IEC 60112
OTHER PROPERTIES	DRY / COND		
Humidity absorption	1.7 / *	%	Sim. to ISO 62
Density	1470 / -	kg∕m³	ISO 1183

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