Property Data



Akulon[®] Ultraflow K-FHGR24

PA6-(GF+GB)30

10% Glass Reinforced, 20% Glass Beads Reinforced, Heat Stabilized, High Flow

MECHANICAL PROPERTIES DRY / COND Tensile modulus $6000 / 3500$ MPa ISO 527-1/-2 Stress at break $85 / 55$ MPa ISO 527-1/-2 Strain at break $2.5 / 5$ % ISO 527-1/-2 Flexural modulus $4900 / 2300$ MPa ISO 527-1/-2 Flexural modulus $4900 / 2300$ MPa ISO 178 Flexural strength $124 / 63$ MPa ISO 178 Charpy impact strength (+23°C) $21 / kJ/m^2$ ISO 179/1eU Charpy mot strength (-30°C) $21 / kJ/m^2$ ISO 179/1eU Charpy notched impact strength (+23°C) $4 / 6$ kJ/m^2 ISO 179/1eA Charpy notched impact strength (-30°C) $4 / 4$ kJ/m^2 ISO 11357-1/-3 Temp. of deflection under load (1.80 MPa) 190 / * °C ISO 11357-1/-3 Temp. of deflection under load (0.45 MPa) 215 / * °C ISO 11357-1/-2 Coeff. of linear therm. expansion (parallel) $0.35 / *$ E-4/°C ISO 11359-1/-2 ELECTRICAL PROPERTIES DRY / COND IEC	PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Tensile modulus 6000 / 3500 MPa ISO 527-1/-2 Stress at break 85 / 55 MPa ISO 527-1/-2 Strain at break 2.5 / 5 % ISO 527-1/-2 Flexural modulus 4900 / 2300 MPa ISO 527-1/-2 Flexural modulus 4900 / 2300 MPa ISO 527-1/-2 Flexural strength 124 / 63 MPa ISO 178 Charpy impact strength (+23°C) 21 / - kJ/m² ISO 179/1eU Charpy impact strength (-30°C) 21 / - kJ/m² ISO 179/1eU Charpy notched impact strength (+23°C) 4 / 6 kJ/m² ISO 179/1eU Charpy notched impact strength (-30°C) 4 / 4 kJ/m² ISO 179/1eA Charpy notched impact strength (-30°C) 4 / 4 kJ/m² ISO 11357-1/-3 Temp. of deflection under load (180 MPa) 190 / ° °C ISO 11357-1/-2 Melting temperature (10°C/min) 220 / ° °C ISO 11357-1/-2 Temp. of deflection under load (0.45 MPa) 215 / ° °C ISO 11357-1/-2 Coeff. of linear therm. expansion (parallel) 0.35 / ° E-4/°C ISO 11359-1/-2 C				
Stress at break 85 / 55 MPa ISO 527-1/-2 Strain at break 2.5 / 5 % ISO 527-1/-2 Flexural modulus 4900 / 2300 MPa ISO 178 Flexural strength 124 / 63 MPa ISO 178 Charpy impact strength (+23°C) 21 / - kJ/m² ISO 179/1eU Charpy impact strength (-30°C) 21 / - kJ/m² ISO 179/1eU Charpy notohed impact strength (-30°C) 21 / - kJ/m² ISO 179/1eU Charpy notohed impact strength (-30°C) 4 / 6 kJ/m² ISO 179/1eA Charpy notohed impact strength (-30°C) 4 / 4 kJ/m² ISO 179/1eA Charpy notohed impact strength (-30°C) 4 / 4 kJ/m² ISO 179/1eA THERMAL PROPERTIES DRY / COND ISO 11357-1/-3 ISO 179/1eA Melting temperature (10°C/min) 220 / * °C ISO 11357-1/-2 Temp. of deflection under load (1.80 MPa) 190 / * °C ISO 11357-1/-2 Coeff. of linear therm. expansion (parallel) 0.35 / * E-4/°C ISO 11359-1/-2 Coeff. of linear therm. expansion (parallel) 0.35 / * E-4/°C ISO 11359-1/-2				
International and the set of the s	Tensile modulus	6000 / 3500	MPa	ISO 527-1/-2
Flexural modulus 4900 / 2300 MPa ISO 178 Flexural strength 124 / 63 MPa ISO 178 Charpy impact strength (+23°C) 21 / - kJ/m² ISO 179/1eU Charpy impact strength (-30°C) 21 / - kJ/m² ISO 179/1eU Charpy notched impact strength (-30°C) 21 / - kJ/m² ISO 179/1eU Charpy notched impact strength (-30°C) 4 / 6 kJ/m² ISO 179/1eA Charpy notched impact strength (-30°C) 4 / 4 kJ/m² ISO 179/1eA Charpy notched impact strength (-30°C) 4 / 4 kJ/m² ISO 179/1eA THERMAL PROPERTIES DRY / COND ISO 11357-1/-3 Melting temperature (10°C/min) 220 / * °C ISO 11357-1/-2 Temp. of deflection under load (180 MPa) 190 / * °C ISO 11357-1/-2 Coeff. of linear therm. expansion (parallel) 0.35 / * E-4/°C ISO 11359-1/-2 Coeff. of linear therm. expansion (parallel) 0.35 / * E-4/°C ISO 11359-1/-2 ELECTRICAL PROPERTIES DRY / COND E E E E Relative permittivity (100Hz) 3.5 / 14 -	Stress at break	85 / 55	MPa	ISO 527-1/-2
Flexural strength124 / 63MPaISO 178Charpy impact strength (+23°C)21 / -kJ/m²ISO 179/1eUCharpy impact strength (-30°C)21 / -kJ/m²ISO 179/1eUCharpy notched impact strength (+23°C)4 / 6kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)4 / 4kJ/m²ISO 179/1eACharpy notched impact strength (-30°C)4 / 4kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min)220 / *°CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)190 / *°CISO 150 11357-1/-2Temp. of deflection under load (0.45 MPa)215 / *°CISO 179/1eACoeff. of linear therm. expansion (parallel)0.35 / *E-4/°CISO 11359-1/-2ELECTRICAL PROPERTIESPRY / CONDRelative permittivity (100Hz)3.5 / 14-IEC 62631-2-1Dissipation factor (100 Hz)50 / 3000E-4IEC 62631-2-1Dissipation factor (100 Hz)150 / 1200E-4IEC 62631-2-1Volume resistivity1E12 / 1E10Ohm*mIEC 62631-3-1	Strain at break	2.5 / 5	%	ISO 527-1/-2
Charpy impact strength (+23°C) $21/-$ kJ/m²ISO 179/1eUCharpy impact strength (-30°C) $21/-$ kJ/m²ISO 179/1eUCharpy notched impact strength (+23°C) $4/6$ kJ/m²ISO 179/1eACharpy notched impact strength (-30°C) $4/4$ kJ/m²ISO 179/1eACharpy notched impact strength (-30°C) $4/4$ kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min) $220/^{\circ}$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)190/ $^{\circ}$ °CISO 75-1/-2Temp. of deflection under load (0.45 MPa) $215/^{\circ}$ °CISO 11359-1/-2Coeff. of linear therm. expansion (parallel) $0.35/^{\circ}$ E-4/°CISO 11359-1/-2ELECTRICAL PROPERTIESDRY / CONDRelative permittivity (100Hz) $3.5/14$ -IEC 62631-2-1Dissipation factor (100 Hz) $50/3000$ E-4IEC 62631-2-1Dissipation factor (100 Hz) $150/1200$ E-4IEC 62631-2-1Volume resistivity1E12/1E10Ohm*mIEC 62631-3-1	Flexural modulus	4900 / 2300	MPa	ISO 178
Charpy impact strength (-30° C) $21 / -$ kJ/m²ISO 179/1eUCharpy notched impact strength ($+23^{\circ}$ C) $4 / 6$ kJ/m²ISO 179/1eACharpy notched impact strength (-30° C) $4 / 4$ kJ/m²ISO 179/1eACharpy notched impact strength (-30° C) $4 / 4$ kJ/m²ISO 179/1eACharpy notched impact strength (-30° C) $4 / 4$ kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10° C/min) $220 / *$ $^{\circ}$ CISO 11357–1/–3Temp. of deflection under load (1.80 MPa) $190 / *$ $^{\circ}$ CISO 150 1557–1/–2Temp. of deflection under load (0.45 MPa) $215 / *$ $^{\circ}$ CISO 179/1eACoeff. of linear therm. expansion (parallel) $0.35 / *$ $E-4/^{\circ}$ CISO 11359–1/–2Coeff. of linear therm. expansion (parallel) $0.35 / *$ $E-4/^{\circ}$ CISO 11359–1/–2ELECTRICAL PROPERTIESDRY / CONDERelative permittivity (100 Hz) $3.5 / 14$ $-$ IEC 62631–2–1Dissipation factor (100 Hz) $50 / 3000$ $E-4$ IEC 62631–2–1Dissipation factor (100 Hz) $150 / 1200$ $E-4$ IEC 62631–2–1Volume resistivity $1E12 / 1E10$ Ohm*mIEC 62631–3–1	Flexural strength	124 / 63	MPa	ISO 178
Charpy notched impact strength (+23°C) $4/6$ kJ/m²ISO 179/1eACharpy notched impact strength (-30°C) $4/4$ kJ/m²ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min) $220/*$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)190/*°CISO 75-1/-2Temp. of deflection under load (0.45 MPa) $215/*$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.35/*$ $E-4/°C$ ISO 11359-1/-2ELECTRICAL PROPERTIESDRY / CONDRelative permittivity (100Hz) $3.5/14$ -IEC 62631-2-1Relative permittivity (100Hz) $3.3/4.5$ -IEC 62631-2-1Dissipation factor (100 Hz) $50/3000$ E-4IEC 62631-2-1Dissipation factor (1 MHz) $150/1200$ E-4IEC 62631-2-1Volume resistivity1E12/1E10Ohm*mIEC 62631-3-1	Charpy impact strength (+23°C)	21 / -	kJ∕m²	ISO 179/1eU
Charpy notched impact strength (-30°C) $4/4$ kJ/m^2 ISO 179/1eATHERMAL PROPERTIESDRY / CONDMelting temperature (10°C/min) $220/^{\circ}$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa) $190/^{\circ}$ °CISO 75-1/-2Temp. of deflection under load (0.45 MPa) $215/^{\circ}$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.35/^{\circ}$ $E-4/^{\circ}C$ ISO 11359-1/-2ELECTRICAL PROPERTIESDRY / CONDRelative permittivity (100Hz) $3.5/14$ -IEC 62631-2-1Dissipation factor (100 Hz) $50/3000$ $E-4$ IEC 62631-2-1Dissipation factor (10 Hz) $150/1200$ $E-4$ IEC 62631-2-1Volume resistivity $1E12/1E10$ Ohm*mIEC 62631-3-1	Charpy impact strength (-30°C)	21 / -	kJ∕m²	ISO 179/1eU
THERMAL PROPERTIESDRY / CONDMelting temperature $(10^{\circ}C/min)$ $220 / \cdot$ $^{\circ}C$ ISO 11357-1/-3Temp. of deflection under load (1.80 MPa) $190 / \cdot$ $^{\circ}C$ ISO 75-1/-2Temp. of deflection under load (0.45 MPa) $215 / \cdot$ $^{\circ}C$ ISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.35 / \cdot$ $E-4/^{\circ}C$ ISO 11359-1/-2ELECTRICAL PROPERTIESDRY / CONDRelative permittivity (100Hz) $3.5 / 14$ -IEC 62631-2-1Relative permittivity (1 MHz) $3.3 / 4.5$ -IEC 62631-2-1Dissipation factor (100 Hz) $50 / 3000$ $E-4$ IEC 62631-2-1Dissipation factor (1 MHz) $150 / 1200$ $E-4$ IEC 62631-2-1Volume resistivity $1E12 / 1E10$ Ohm*mIEC 62631-3-1	Charpy notched impact strength (+23°C)	4 / 6	kJ∕m²	ISO 179/1eA
Melting temperature (10°C/min) $220 / *$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)190 / *°CISO 75-1/-2Temp. of deflection under load (0.45 MPa) $215 / *$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.35 / *$ $E-4/°C$ ISO 11359-1/-2 ELECTRICAL PROPERTIES DRY / CONDRelative permittivity (100Hz) $3.5 / 14$ -IEC 62631-2-1Relative permittivity (1 MHz) $3.3 / 4.5$ -IEC 62631-2-1Dissipation factor (100 Hz) $50 / 3000$ $E-4$ IEC 62631-2-1Dissipation factor (1 MHz) $150 / 1200$ $E-4$ IEC 62631-2-1Volume resistivity1E12 / 1E10Ohm*mIEC 62631-3-1	Charpy notched impact strength (-30°C)	4 / 4	kJ∕m²	ISO 179/1eA
Melting temperature (10°C/min) $220 / *$ °CISO 11357-1/-3Temp. of deflection under load (1.80 MPa)190 / *°CISO 75-1/-2Temp. of deflection under load (0.45 MPa) $215 / *$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.35 / *$ $E-4/°C$ ISO 11359-1/-2 ELECTRICAL PROPERTIES DRY / CONDRelative permittivity (100Hz) $3.5 / 14$ -IEC 62631-2-1Relative permittivity (1 MHz) $3.3 / 4.5$ -IEC 62631-2-1Dissipation factor (100 Hz) $50 / 3000$ $E-4$ IEC 62631-2-1Dissipation factor (1 MHz) $150 / 1200$ $E-4$ IEC 62631-2-1Volume resistivity1E12 / 1E10Ohm*mIEC 62631-3-1				
Temp. of deflection under load (1.80 MPa) $190 / *$ °CISO 75-1/-2Temp. of deflection under load (0.45 MPa) $215 / *$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.35 / *$ $E-4/°C$ ISO 11359-1/-2ELECTRICAL PROPERTIESRelative permittivity (100Hz) $3.5 / 14$ -IEC 62631-2-1Relative permittivity (1 MHz) $3.3 / 4.5$ -IEC 62631-2-1Dissipation factor (100 Hz) $50 / 3000$ $E-4$ IEC 62631-2-1Dissipation factor (1 MHz) $150 / 1200$ $E-4$ IEC 62631-2-1Volume resistivity $1E12 / 1E10$ Ohm*mIEC 62631-3-1	THERMAL PROPERTIES	DRY / COND		
Temp. of deflection under load (0.45 MPa) $215 / *$ °CISO 75-1/-2Coeff. of linear therm. expansion (parallel) $0.35 / *$ $E-4/°C$ ISO 11359-1/-2ELECTRICAL PROPERTIESDRY / CONDRelative permittivity (100Hz) $3.5 / 14$ -IEC 62631-2-1Relative permittivity (1 MHz) $3.3 / 4.5$ -IEC 62631-2-1Dissipation factor (100 Hz) $50 / 3000$ $E-4$ IEC 62631-2-1Dissipation factor (1 MHz) $150 / 1200$ $E-4$ IEC 62631-2-1Volume resistivity $1E12 / 1E10$ Ohm*mIEC 62631-3-1	Melting temperature (10°C/min)	220 / *	°C	ISO 11357-1/-3
Coeff. of linear therm. expansion (parallel) $0.35 / *$ $E-4/^{\circ}C$ ISO 11359-1/-2ELECTRICAL PROPERTIESDRY / CONDRelative permittivity (100Hz) $3.5 / 14$ -IEC 62631-2-1Relative permittivity (1 MHz) $3.3 / 4.5$ -IEC 62631-2-1Dissipation factor (100 Hz) $50 / 3000$ $E-4$ IEC 62631-2-1Dissipation factor (1 MHz) $150 / 1200$ $E-4$ IEC 62631-2-1Volume resistivity1E12 / 1E10Ohm*mIEC 62631-3-1	Temp. of deflection under load (1.80 MPa)	190 / *	°C	ISO 75-1/-2
ELECTRICAL PROPERTIES DRY / COND Relative permittivity (100Hz) $3.5 / 14$ - IEC 62631-2-1 Relative permittivity (1 MHz) $3.3 / 4.5$ - IEC 62631-2-1 Dissipation factor (100 Hz) $50 / 3000$ E-4 IEC 62631-2-1 Dissipation factor (1 MHz) $150 / 1200$ E-4 IEC 62631-2-1 Volume resistivity 1E12 / 1E10 Ohm*m IEC 62631-3-1	Temp. of deflection under load (0.45 MPa)	215 / *	°C	ISO 75-1/-2
Relative permittivity (100Hz) 3.5 / 14 - IEC 62631-2-1 Relative permittivity (1 MHz) 3.3 / 4.5 - IEC 62631-2-1 Dissipation factor (100 Hz) 50 / 3000 E-4 IEC 62631-2-1 Dissipation factor (1 MHz) 150 / 1200 E-4 IEC 62631-2-1 Volume resistivity 1E12 / 1E10 Ohm*m IEC 62631-3-1	Coeff. of linear therm. expansion (parallel)	0.35 / *	E-4/°C	ISO 11359-1/-2
Relative permittivity (100Hz) 3.5 / 14 - IEC 62631-2-1 Relative permittivity (1 MHz) 3.3 / 4.5 - IEC 62631-2-1 Dissipation factor (100 Hz) 50 / 3000 E-4 IEC 62631-2-1 Dissipation factor (1 MHz) 150 / 1200 E-4 IEC 62631-2-1 Volume resistivity 1E12 / 1E10 Ohm*m IEC 62631-3-1				
Relative permittivity (1 MHz) 3.3 / 4.5 - IEC 62631-2-1 Dissipation factor (100 Hz) 50 / 3000 E-4 IEC 62631-2-1 Dissipation factor (1 MHz) 150 / 1200 E-4 IEC 62631-2-1 Volume resistivity 1E12 / 1E10 Ohm*m IEC 62631-3-1	ELECTRICAL PROPERTIES	DRY / COND		
Dissipation factor (100 Hz) 50 / 3000 E-4 IEC 62631-2-1 Dissipation factor (1 MHz) 150 / 1200 E-4 IEC 62631-2-1 Volume resistivity 1E12 / 1E10 Ohm*m IEC 62631-3-1	Relative permittivity (100Hz)	3.5 / 14	_	IEC 62631-2-1
Dissipation factor (1 MHz) 150 / 1200 E-4 IEC 62631-2-1 Volume resistivity 1E12 / 1E10 Ohm*m IEC 62631-3-1	Relative permittivity (1 MHz)	3.3 / 4.5	_	IEC 62631-2-1
Volume resistivity 1E12 / 1E10 Ohm*m IEC 62631-3-1	Dissipation factor (100 Hz)	50 / 3000	E-4	IEC 62631-2-1
	Dissipation factor (1 MHz)	150 / 1200	E-4	IEC 62631-2-1
Surface resistivity -/1E13 Ohm IEC 62631-3-2	Volume resistivity	1E12 / 1E10	Ohm*m	IEC 62631-3-1
	Surface resistivity	- / 1E13	Ohm	IEC 62631-3-2

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Property Data Akulon[®] Ultraflow K-FHGR24

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Electric strength	35 / 25	kV/mm	IEC 60243-1
Comparative tracking index	350 / 350	V	IEC 60112
OTHER PROPERTIES	DRY / COND		
Water absorption	6.5 / *	%	Sim. to ISO 62
Humidity absorption	1.9 / *	%	Sim. to ISO 62
Density	1350 / -	kg∕m³	ISO 1183

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