

Print Date: 2024-12-10

## Durethan<sup>®</sup> BKV15

## **PA\*-GF15**

15% Glass Reinforced, Injection Molding

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
PROPERTIES	TIPICAL DATA	UNIT	TEST METHOD
MECHANICAL PROPERTIES	DRY / COND		
Tensile modulus	6000 / 3000	MPa	ISO 527-1/-2
Stress at break	125 / 75	MPa	ISO 527-1/-2
Strain at break	3 / 12	%	ISO 527-1/-2
Flexural modulus	5200 / 3100	MPa	ISO 178
Flexural strength	200 / 120	MPa	ISO 178
Charpy impact strength (+23°C)	45 / 70	kJ∕m²	ISO 179/1eU
Charpy impact strength (-30°C)	35 / 35	kJ∕m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	<10 / 10	kJ∕m²	ISO 179/1eA
Charpy notched impact strength (-30°C)	<10 / <10	kJ∕m²	ISO 179/1eA
Izod notched impact strength (-40°C)	<10 / <10	kJ∕m²	ISO 180/1A
THERMAL PROPERTIES	DRY / COND		
Melting temperature (10°C/min)	213 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	190 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	210 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	0.3 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	0.8 / *	E-4/°C	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
Burning Behav. at 3.0 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	3 / *	mm	IEC 60695-11-10
Burning Behav. at 0.75 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	0.75 / *	mm	IEC 60695-11-10

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Oxygen index         22 / '         %         ISO 4589-1/-2           Glow Wire Flammability Index GWFI         650 / -         °C         IEC 60695 2 12           GWFI (Thickness (1) tested)         2 / -         mm         IEO 60695 - 2-12           ELECTRICAL PROPERTIES         DRY / COND         -         IEO 62631-2-1           Relative permittivity (100Hz)         4 / 10         -         IEO 62631-2-1           Dissipation factor (100 Hz)         50 / 2000         E -4         IEC 62631 - 2-1           Volume resistivity         160 / 1200         E -4         IEC 62631 - 2-1           Volume resistivity         160 / 1200         E -4         IEC 62631 - 2-1           Volume resistivity         1613 / 1E10         Ohm'm         IEC 62631 - 3-1           Surface resistivity         '/ 1E12         Ohm         IEC 62631 - 3-2           Gomparative tracking index         600 / -         V         IEC 60112           OTHER PROPERTIES         DRY / COND         Water absorption         8.5 / *         %           Mater absorption         8.5 / *         %         Sim. to ISO 62           Humidity absorption         2.6 / *         %         Sim. to ISO 62           Density         1230 / -         kg/m³         ISO 1183 </th <th>PROPERTIES</th> <th>TYPICAL DATA</th> <th>UNIT</th> <th>TEST METHOD</th>	PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
GWFI (Thickness (1) tested)         2 / -         mm         IEC 60695-2-12           ELECTRICAL PROPERTIES         DRY / COND         Relative permittivity (100Hz)         4 / 10         -         IEC 62631-2-1           Relative permittivity (100Hz)         4 / 10         -         IEC 62631-2-1           Relative permittivity (100Hz)         4 / 5         -         IEC 62631-2-1           Dissipation factor (100 Hz)         50 / 2000         E-4         IEC 62631-2-1           Dissipation factor (10 Hz)         150 / 1200         E-4         IEC 62631-2-1           Volume resistivity         1E13 / 1E10         Ohm*m         IEC 62631-2-1           Volume resistivity         1E13 / 1E10         Ohm*m         IEC 62631-3-1           Surface resistivity         '/ 1E12         Ohm         IEC 62631-3-2           Electric strength         40 / 35         KV/mm         IEC 60243-1           Comparative tracking index         600 / -         V         IEC 60112           OTHER PROPERTIES         DRY / COND         Value         Sim. to ISO 62           Density         1230 / -         kg/m³         ISO 1183           MATERIAL SPECIFIC PROPERTIES         DRY / COND         Value           Viscosity number         138 / *         Cm²/g <td>Oxygen index</td> <td>22 / *</td> <td>%</td> <td>ISO 4589-1/-2</td>	Oxygen index	22 / *	%	ISO 4589-1/-2
ELECTRICAL PROPERTIESDRY / CONDRelative permittivity (100Hz) $4/10$ -Relative permittivity (10Hz) $4/15$ -Relative permittivity (10Hz) $4/5$ -Dissipation factor (100 Hz) $50/2000$ E-4Dissipation factor (10 Hz) $50/2000$ E-4Dissipation factor (10Hz) $150/1200$ E-4Dissipation factor (10Hz) $150/1200$ E-4Dissipation factor (10Hz) $150/1200$ E-4Dissipation factor (10Hz) $150/1200$ E-4Volume resistivity $1E13/1E10$ Ohm'mSurface resistivity'/1E12OhmSurface resistivity'/1E12OhmComparative tracking index $600/-$ VVater absorption $8.5/^{\circ}$ %Sim. to ISO 62DensityHumidity absorption $2.6/^{\circ}$ %Sim. to ISO 62DensityDensity $1230/-$ kg/m <sup>a</sup> Viscosity number $138/^{\circ}$ cm <sup>a</sup> /gSurg temperature dry air dryer $80$ "CDrying temperature dry air dryer $2-6$ hResidual moisture content $0.03-0.12$ %Acc. to Karl Fisoher $260-290$ "C	Glow Wire Flammability Index GWFI	650 / -	°C	IEC 60695-2-12
Relative permittivity (100Hz) $4/10$ $-$ IEC 62631-2-1Relative permittivity (1 MHz) $4/5$ $-$ IEC 62631-2-1Dissipation factor (100 Hz) $50/2000$ E-4IEC 62631-2-1Dissipation factor (1 MHz) $150/1200$ E-4IEC 62631-2-1Volume resistivity $1E13/1E10$ Ohm*mIEC 62631-2-1Surface resistivity $^{\prime}/1E12$ OhmIEC 62631-3-2Electric strength $40/35$ kV/mmIEC 60243-1Comparative tracking index $600/-$ VIEC 60112OTHER PROPERTIESDRY / CONDWater absorption $8.5/^*$ %Sim. to ISO 62Humidity absorption $2.6/^*$ %Sim. to ISO 62Density $1230/-$ kg/m³MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number $138/^*$ cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer $2-6$ hResidual moisture content $0.03-0.12$ %Melt temperature (Tmin – Tmax) $260-290$ "C	GWFI (Thickness (1) tested)	2/-	mm	IEC 60695-2-12
Relative permittivity (100Hz) $4/10$ $-$ IEC 62631-2-1Relative permittivity (1 MHz) $4/5$ $-$ IEC 62631-2-1Dissipation factor (100 Hz) $50/2000$ E-4IEC 62631-2-1Dissipation factor (1 MHz) $150/1200$ E-4IEC 62631-2-1Volume resistivity $1E13/1E10$ Ohm*mIEC 62631-2-1Surface resistivity $^{\prime}/1E12$ OhmIEC 62631-3-2Electric strength $40/35$ kV/mmIEC 60243-1Comparative tracking index $600/-$ VIEC 60112OTHER PROPERTIESDRY / CONDWater absorption $8.5/^*$ %Sim. to ISO 62Humidity absorption $2.6/^*$ %Sim. to ISO 62Density $1230/-$ kg/m³MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number $138/^*$ cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer $2-6$ hResidual moisture content $0.03-0.12$ %Melt temperature (Tmin – Tmax) $260-290$ "C				
Relative permittivity (1 MHz) $4/5$ -IEC 62631-2-1Dissipation factor (100 Hz) $50/2000$ E-4IEC 62631-2-1Dissipation factor (1 MHz) $150/1200$ E-4IEC 62631-2-1Volume resistivity1E13/1E10Ohm 'mIEC 62631-3-1Surface resistivity'/1E12OhmIEC 62631-3-2Electric strength $40/35$ kV/mmIEC 60243-1Comparative tracking index $600/-$ VIEC 60112OTHER PROPERTIESDRY / CONDWater absorption& 8.5 / *%Sim. to ISO 62Humidity absorption $2.6 / *$ %Sim. to ISO 62Density1230 / -kg/m³ISO 1183MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUE $2-6$ hResidual moisture content $0.03-0.12$ %acc. to Karl FischerMelt temperature (Tmin – Tmax) $260-290$ °C $°C$	ELECTRICAL PROPERTIES	DRY / COND		
Dissipation factor (100 Hz)         50 / 2000         E-4         IEC 62631-2-1           Dissipation factor (1 MHz)         150 / 1200         E-4         IEC 62631-2-1           Volume resistivity         1E13 / 1E10         Ohm 'm         IEC 62631-3-1           Surface resistivity         '/ 1E12         Ohm         IEC 62631-3-2           Electric strength         40 / 35         kV/mm         IEC 60243-1           Comparative tracking index         600 / -         V         IEC 60112           OTHER PROPERTIES         DRY / COND         V         IEC 60112           OTHER PROPERTIES         DRY / COND         V         V           Water absorption         8.5 / *         %         Sim. to ISO 62           Humidity absorption         2.6 / *         %         Sim. to ISO 62           Density         1230 / -         kg/m³         ISO 1183           MATERIAL SPECIFIC PROPERTIES         DRY / COND         Viscosity number         138 / *         cm³/g         ISO 307, 1157, 1628           PROCESSING RECOMMENDATIONS         VALUE         V         Drying temperature dry air dryer         2-6         h           Residual moisture content         0.03-0.12         %         acc. to Karl Fischer           Meit temperature (Tmi	Relative permittivity (100Hz)	4 / 10	_	IEC 62631-2-1
Dissipation factor (1 MHz)150 / 1200E-4IEC 62631-2-1Volume resistivity1E13 / 1E10Ohm*mIEC 62631-3-1Surface resistivity* / 1E12OhmIEC 62631-3-2Electric strength40 / 35kV/mmIEC 60243-1Comparative tracking index600 / -VIEC 60112OTHER PROPERTIESDRY / CONDWater absorption8.5 / *%Sim. to ISO 62Humidity absorption2.6 / *Pensity1230 / -kg/m³ISO 1183MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number138 / *cm³/gViscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUE2-6hDrying temperature dry air dryer2-6hResidual moisture content0.03-0.12%acc. to Karl FischerMelt temperature (Tmin – Tmax)260-290°C	Relative permittivity (1 MHz)	4 / 5	_	IEC 62631-2-1
Volume resistivity1E13 / 1E10Ohm*mIEC 62631-3-1Surface resistivity* / 1E12OhmIEC 62631-3-2Electric strength40 / 35kV/mmIEC 60243-1Comparative tracking index600 / -VIEC 60112OTHER PROPERTIESDRY / CONDWater absorption $8.5 / \cdot$ %Sim. to ISO 62Humidity absorption $2.6 / \cdot$ %Density1230 / -kg/m³ISO 1183MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer $2-6$ hResidual moisture content $0.03-0.12$ %acc. to Karl FischerMelt temperature (Tmin – Tmax)260-290°C	Dissipation factor (100 Hz)	50 / 2000	E-4	IEC 62631-2-1
Surface resistivity       */1E12       Ohm       IEC 62631-3-2         Electric strength       40 / 35       kV/mm       IEC 60243-1         Comparative tracking index       600 / -       V       IEC 60112         OTHER PROPERTIES         DRY / COND         Water absorption       8.5 / *       %       Sim. to ISO 62         Humidity absorption       2.6 / *       %       Sim. to ISO 62         Density       1230 / -       kg/m³       ISO 1183         MATERIAL SPECIFIC PROPERTIES       DRY / COND       Viscosity number       138 / *       cm³/g       ISO 307, 1157, 1628         PROCESSING RECOMMENDATIONS       VALUE       Drying temperature dry air dryer       2-6       h         Residual moisture content       0.03-0.12       %       acc. to Karl Fischer         Melt temperature (Tmin – Tmax)       260–290       °C	Dissipation factor (1 MHz)	150 / 1200	E-4	IEC 62631-2-1
Electric strength       40 / 35       kV/mm       IEC 60243-1         Comparative tracking index       600 / -       V       IEC 60112         OTHER PROPERTIES       DRY / COND       V       Water absorption         Water absorption       8.5 /*       %       Sim. to ISO 62         Humidity absorption       2.6 /*       %       Sim. to ISO 62         Density       1230 / -       kg/m³       ISO 1183         MATERIAL SPECIFIC PROPERTIES       DRY / COND       Viscosity number       138 / *       cm³/g       ISO 307, 1157, 1628         PROCESSING RECOMMENDATIONS       VALUE       Drying temperature dry air dryer       80       °C         Drying time dry air dryer       2-6       h       Residual moisture content       0.03-0.12       %       acc. to Karl Fischer         Melt temperature (Tmin – Tmax)       260–290       °C       °C       C	Volume resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Comparative tracking index600 / -VIEC 60112OTHER PROPERTIESDRY / CONDWater absorption8.5 / *%Sim. to ISO 62Humidity absorption2.6 / *%Sim. to ISO 62Density1230 / -kg/m³ISO 1183MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer80°CDrying time dry air dryer2-6hResidual moisture content0.03-0.12%acc. to Karl FischerMelt temperature (Tmin – Tmax)260-290°C	Surface resistivity	* / 1E12	Ohm	IEC 62631-3-2
OTHER PROPERTIES       DRY / COND         Water absorption       8.5 /*       %       Sim. to ISO 62         Humidity absorption       2.6 /*       %       Sim. to ISO 62         Density       1230 / -       kg/m³       ISO 1183         MATERIAL SPECIFIC PROPERTIES       DRY / COND       Kg/m³       ISO 307, 1157, 1628         Viscosity number       138 /*       cm³/g       ISO 307, 1157, 1628         PROCESSING RECOMMENDATIONS       VALUE       Drying temperature dry air dryer       80       °C         Drying time dry air dryer       2-6       h       Residual moisture content       0.03-0.12       %       acc. to Karl Fischer         Melt temperature (Tmin – Tmax)       260–290       °C       °C       C	Electric strength	40 / 35	kV/mm	IEC 60243-1
Water absorption8.5 / *%Sim. to ISO 62Humidity absorption2.6 / *%Sim. to ISO 62Density1230 / -kg/m³ISO 1183MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer80°CDrying time dry air dryer2-6hResidual moisture content0.03-0.12%acc. to Karl FischerMelt temperature (Tmin – Tmax)260-290°C	Comparative tracking index	600 / -	V	IEC 60112
Humidity absorption2.6 /*%Sim. to ISO 62Density1230 / -kg/m³ISO 1183MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number138 /*cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer80°CDrying time dry air dryer2-6hResidual moisture content0.03-0.12%acc. to Karl FischerMelt temperature (Tmin – Tmax)260–290°C				
Density1230 / -kg/m³ISO 1183MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer80°CDrying time dry air dryer2–6hResidual moisture content0.03–0.12%Melt temperature (Tmin – Tmax)260–290°C	OTHER PROPERTIES	DRY / COND		
MATERIAL SPECIFIC PROPERTIESDRY / CONDViscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer80°CDrying time dry air dryer2–6hResidual moisture content0.03–0.12%Melt temperature (Tmin – Tmax)260–290°C			%	Sim. to ISO 62
Viscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer80°CDrying time dry air dryer2–6hResidual moisture content0.03–0.12%Melt temperature (Tmin – Tmax)260–290°C	Water absorption	8.5 / *		
Viscosity number138 / *cm³/gISO 307, 1157, 1628PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer80°CDrying time dry air dryer2–6hResidual moisture content0.03–0.12%Melt temperature (Tmin – Tmax)260–290°C	Water absorption Humidity absorption	8.5 / * 2.6 / *	%	Sim. to ISO 62
PROCESSING RECOMMENDATIONSVALUEDrying temperature dry air dryer80°CDrying time dry air dryer2–6hResidual moisture content0.03–0.12%Melt temperature (Tmin – Tmax)260–290°C	Water absorption Humidity absorption	8.5 / * 2.6 / *	%	Sim. to ISO 62
Drying temperature dry air dryer80°CDrying time dry air dryer2–6hResidual moisture content0.03–0.12%Melt temperature (Tmin – Tmax)260–290°C	Water absorption Humidity absorption Density	8.5 / * 2.6 / * 1230 / -	%	Sim. to ISO 62
Drying temperature dry air dryer80°CDrying time dry air dryer2–6hResidual moisture content0.03–0.12%Melt temperature (Tmin – Tmax)260–290°C	Water absorption         Humidity absorption         Density	8.5 / * 2.6 / * 1230 / – DRY / COND	% kg/m³	Sim. to ISO 62 ISO 1183 ISO 307, 1157,
Drying time dry air dryer2–6hResidual moisture content0.03–0.12%acc. to Karl FischerMelt temperature (Tmin – Tmax)260–290°C	Water absorption         Humidity absorption         Density         MATERIAL SPECIFIC PROPERTIES         Viscosity number	8.5 / * 2.6 / * 1230 / – DRY / COND 138 / *	% kg/m³	Sim. to ISO 62 ISO 1183 ISO 307, 1157,
Residual moisture content0.03–0.12%acc. to Karl FischerMelt temperature (Tmin – Tmax)260–290°C	Water absorption         Humidity absorption         Density         MATERIAL SPECIFIC PROPERTIES         Viscosity number         PROCESSING RECOMMENDATIONS	8.5 / * 2.6 / * 1230 / - DRY / COND 138 / *	% kg/m³ cm³/g	Sim. to ISO 62 ISO 1183 ISO 307, 1157,
Fischer           Melt temperature (Tmin – Tmax)         260–290         °C	Water absorption Humidity absorption Density MATERIAL SPECIFIC PROPERTIES Viscosity number PROCESSING RECOMMENDATIONS Drying temperature dry air dryer	8.5 / * 2.6 / * 1230 / - DRY / COND 138 / * VALUE 80	% kg/m³ cm³/g °C	Sim. to ISO 62 ISO 1183 ISO 307, 1157,
	Water absorption         Humidity absorption         Density         MATERIAL SPECIFIC PROPERTIES         Viscosity number         PROCESSING RECOMMENDATIONS         Drying temperature dry air dryer         Drying time dry air dryer	8.5 / * 2.6 / * 1230 / – DRY / COND 138 / * VALUE 80 2–6	% kg/m³ cm³/g °C h	Sim. to ISO 62 ISO 1183 ISO 307, 1157, 1628
Mold temperature 80–100 °C	Water absorption         Humidity absorption         Density         MATERIAL SPECIFIC PROPERTIES         Viscosity number         PROCESSING RECOMMENDATIONS         Drying temperature dry air dryer         Drying time dry air dryer	8.5 / * 2.6 / * 1230 / – DRY / COND 138 / * VALUE 80 2–6	% kg/m³ cm³/g °C h	Sim. to ISO 62 ISO 1183 ISO 307, 1157, 1628 acc. to Karl
	Water absorption         Humidity absorption         Density         MATERIAL SPECIFIC PROPERTIES         Viscosity number         PROCESSING RECOMMENDATIONS         Drying temperature dry air dryer         Drying time dry air dryer         Residual moisture content	8.5 / * 2.6 / * 1230 / - DRY / COND 138 / * VALUE 80 2-6 0.03-0.12	% kg/m³ cm³/g °C h %	Sim. to ISO 62 ISO 1183 ISO 307, 1157, 1628 acc. to Karl

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