FRIANYL® A3 RV0 YL 1018/M

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Designed for Electrical applications requiring self-extinguishing properties combined with easy processability and good surface quality, this grade meets the most stringent safety requirements for insulating materials.

产品信息

树脂鉴别	(PA66+PA6) FR(30)	ISO 1043
制品标识码	>(PA66+PA6) FR(30)<	ISO 11469

流变性能

	dry/cond.		
粘数	140/*	cm^3/g	ISO 307, 1628

机械性能

	dry/cond.		
拉伸模量	3300/-	MPa	ISO 527-1/-2
拉伸屈服应力, 50mm/min	75/-	MPa	ISO 527-1/-2
断裂伸长率, 50mm/min	10/-	%	ISO 527-1/-2
简支梁无缺口冲击强度, 23°C	>50/-	kJ/m^2	ISO 179/1eU
简支梁缺口冲击强度, 23°C	3/-	kJ/m^2	ISO 179/1eA

热性能

	dry/cond.		
熔融温度, 10°C/min	260/*	°C	ISO 11357-1/-3
相对温度指数，电气, 0.4mm	130	°C	UL 746B
相对温度指数，电气, 0.75mm	130	°C	UL 746B
相对温度指数，电气, 1.5mm	130	°C	UL 746B
相对温度指数，电气, 3.0mm	130	°C	UL 746B
相对温度指数，冲击, 0.4mm	105	°C	UL 746B
相对温度指数，冲击, 0.75mm	105	°C	UL 746B
相对温度指数，冲击, 1.5mm	105	°C	UL 746B
相对温度指数，冲击, 3.0mm	105	°C	UL 746B
相对温度指数，强度, 0.4mm	115	°C	UL 746B
相对温度指数，强度, 0.75mm	120	°C	UL 746B
相对温度指数，强度, 1.5mm	120/*	°C	UL 746B
相对温度指数，强度, 3.0mm	120	°C	UL 746B

阻燃性能

	dry/cond.		
1.5mm名义厚度时的阻燃性	V-0/*	class	IEC 60695-11-10
厚度为h时的阻燃性	V-0/*	class	IEC 60695-11-10
测试用试样的厚度	0.25/*	mm	IEC 60695-11-10
UL认证	yes/*		UL 94
灼热丝可燃指数, 0.75mm	960/-	°C	IEC 60695-2-12
灼热丝可燃指数, 1.5mm	960/-	°C	IEC 60695-2-12
灼热丝可燃指数, 3.0mm	960/-	°C	IEC 60695-2-12
灼热丝起燃温度, 0.75mm	775/-	°C	IEC 60695-2-13
灼热丝起燃温度, 1.5mm	775/-	°C	IEC 60695-2-13
灼热丝起燃温度, 3.0mm	775/-	°C	IEC 60695-2-13
电热丝起燃, 0.75mm	PLC 4/*	s	UL 746A
电热丝起燃, 1.5mm	PLC 3/*	s	UL 746A
电热丝起燃, 3mm	PLC 1/*	s	UL 746A
铁路认证	R22/R24		EN 45545-2

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铁路认证评级	HL3/HL3		EN 45545-2

电性能

	dry/cond.		
体积电阻率	1E12/-	Ohm.m	IEC 62631-3-1
相对漏电起痕指数	600/-		IEC 60112

其它性能

	dry/cond.		
吸湿率, 2mm	2.2/*	%	类似ISO 62
吸水率, 2mm	7.9/*	%	类似ISO 62
密度	1160/-	kg/m³	ISO 1183

特性

加工方法	注塑
添加剂	阻燃剂
特殊性能	阻燃

其他信息

注塑

Preprocessing

PA materials, stocked in a moisture-proof packaging, can be processed without drying; however, it is always recommended drying the product that comes from a large package (e.g. Octabin). The moisture content suggested for the injection molding process should be lower than 0.15%, according to the grade and to the molded part characteristics. The materials containing flame retardants should have moisture content below 0.10%. Red phosphorous containing grades must always be dried below 0.08%. The drying time depends on the moisture content and the drying conditions. Typically, 4-8 hours at 80-90°C using dehumidified air (dew point of -20°C) are suitable conditions for a starting moisture content of 0.20%-0.40%.

Processing

The following conditions apply to a standard injection molding process. Machine temperatures: barrel 265-290°C (PA66), 235-270°C (PA6), nozzle and hot runners up to 300°C (up to 290°C products with flame retardants). Mold temperatures: 60-80°C, (80-100°C highly reinforced grades). Back pressure: typically, 5-10 bar (hydraulic pressure). Temperatures exceeding 300°C and long residence time could lead to additives degradation and brittleness of the material. In case of gas generation in the melt, please verify moisture content and processing temperatures. Usage of regrind is possible depending on the molded part characteristics. For further details, please refer to the document 'Instructions for injection molding' or contact our technical support team.

Postprocessing

PA materials reach their final performance with a water content of about 1.5 to 3.5% by weight, depending on the type. This percentage corresponds to the point

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of equilibrium between the rates of absorption and desorption of moisture. After molding, in favorable environmental conditions, a part can quickly absorbs moisture up to 0.5-1.0%, while the equilibrium will be reached during its life. A conditioning treatment can accelerate further the initial water absorption of the molded parts. Conditioning is usually carried out in hot and humid environment (for example 50 °C, 100% RH), inside climatic chambers. Slight dimensional variations (increase in volume due to the water absorbed) must be considered, especially in unfilled grades. Post-treatments of parts may also include the annealing (60-80 °C in oven, up to four hours). This procedure can be useful to relax any internal stresses.

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