Celanese
The chemistry inside innovation™

FRIANYL® A3 RV0 BG 1019/P

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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
连续使用温度	130 °C	IEC 60216-1

流变性能

	dry/cond.		
粘数	120/*	cm^3/g	ISO 307, 1628
模塑收缩率范围, 平行	1.2 - 1.6	%	ISO 294-4, 2577
模塑收缩率范围, 垂直	1.2 - 1.6	%	ISO 294-4, 2577

机械性能

	dry/cond.		
拉伸模量	3400/-	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	4.5/-	%	ISO 527-1/-2
简支梁无缺口冲击强度, 23°C	40/-	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
热变形温度, 1.8 MPa	85/*	°C	ISO 75-1/-2
热变形温度, 0.45 MPa	185/*	°C	ISO 75-1/-2

阻燃性能

	dry/cond.		
厚度为h时的阻燃性	V-0/*	class	IEC 60695-11-10
测试用试样的厚度	3.2/*	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, 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, 0.4mm	775/-	°C	IEC 60695-2-12
FMVSS Class	SE		ISO 3795 (FMVSS 302)

电性能

	dry/cond.		
相对漏电起痕指数	600/-		IEC 60112

其它性能

	dry/cond.		
吸湿率, 2mm	2.1/*	%	类似ISO 62
吸水率, 2mm	7.6/*	%	类似ISO 62
密度	1170/-	kg/m^3	ISO 1183

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特性

加工方法	注塑
添加剂	阻燃剂, 无卤/无红磷阻燃剂
特殊性能	阻燃, 热稳定

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 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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