UNIGARD™ HP HFDA-6522 NT

Halogenated Flame Retardant Insulation Compound

The Dow Chemical Company

Описание материалов:

CV Cure/Control Cable Insulation (UL 44 VW-1)

Главная Информация	
Используется	Огнезащитная изоляция
	Галогенная изоляция
	Изоляция низкого напряжения
	Применение проводов и кабелей
	Изоляционный материал
	Влагостойкий изоляционный материал
Формы	Частицы

Физический	Номинальное значение	Единица измерения	Метод испытания
Плотность	1.30	g/cm³	ASTM D1505
Механическое поглощение воды (82 °C)	0.190	mg/cm²	UL 1581
Прочность на растяжение-7 дней(121 °C)	100	%	ASTM D638
Коэффициент удлинения-7 дней(121 °C)	95	%	ASTM D638
Деформация (121 °C)	10	%	UL 44
SIC			UL 44
in 75°C (167°F) water, after 24 hrs	3.23		UL 44
in 75°C (167°F) water, increase, 1 to 14 days	2.0	%	UL 44
in 75°C (167°F) water, increase, 7 to 14 days	0.10	%	UL 44
Stability Factor	0.300		UL 44
Сопротивление изоляции-В воде(16 °C)	50000	Mohms/1000 ft	UL 44
VW-1-Вертикальное Испытание на ожога (№ 14 AWG (1,63 мм диаметр) XHHW, RHH)	Pass		UL 44
Испытание пламени-Горизонтальный	Pass		UL 44

Механические	Номинальное значение	Единица измерения	Метод испытания
Прочность на растяжение	13.8	MPa	ASTM D638
Удлинение при растяжении (Break)	330	%	ASTM D638
Флекторный модуль-1% Secant	124	MPa	ASTM D790

Электрический	Номинальное значение	Единица измерения	Метод испытания

Диэлектрическая постоянная (60 Hz)	3.20		ASTM D150
Коэффициент рассеивания (60 Hz)	3.0E-3		ASTM D150
Воспламеняемость	**Номинальное значение**	**Единица измерения**	**Метод испытания**
Индекс кислорода	29	%	ASTM D2863

Дополнительная информация

Heat Aging Characteristics
HFDA-6522 Natural is formulated to possess an outstanding long-term service life. Results supporting this very important wire and cable compound property are presented graphically in Figure 1.
Arrhenius aging data represent the accepted method for projecting service life of wire and cable compounds. The data in Figure 1 are presented in terms of the time required at various temperatures to reach 60 percent of the original elongation measured. These data were obtained on cured slab samples subjected to oven aging at temperatures of 136, 146, 156, 170 and 182°C. The semi-log curve data in Figure 1 show an excellent correlation coefficient (0.94) and were used to project a service life at 85°C of 40 years.
Your attention is drawn to a not uncommon initial change in percent elongation found with UNIGARD-HP HFDA-6522 Natural. We have determined that oftentimes an initial decrease in the elongation to about 85 percent of the original is measured. This change does not reflect oxidative degradation of the compound but rather signals a post-cure interactive effect of one of the formulation components. Once this post-cure phenomenon is complete, further accelerated loss of elongation does not occur. The post-cure decrease is not at all significant because HFDA-6522 Natural possesses an extremely high original percent elongation value.
Wet Electrical Performance
Figures 2 and 3 graphically present insulation resistance and specific inductance capacitance data for HFDA-6522 Natural in 75°C water for one year. These data show the excellent long-term dielectric properties of this compound under these test conditions.
Figures 4 and 5 present the same data measured under the more severe continuous service conditioning in 90°C water. Again the excellent results reflect the retention of insulative properties in the demanding environment of the test.
Colorability
HFDA-6522 Natural is a colorable compound. Our experience has been that the color masterbatch materials recommended for use with crosslinked polyethylene wire and cable products serve the purpose in HFDA-6522. Generally speaking, color masterbatch added at the 2% by weight level gives adequate color and disperses well in the extrusion process.

Figure 5: EM-60 Data HFDA-6522 Specific Inductance Capacitance in 90°C water

Инструкции по экструзии

The Extrusion Profile summarizes conditions for a commercial extrusion run on HFDA-6522. Using these conditions with a standard polyethylene screw afforded high quality finished wire meeting the specifications set forth in Underwriters Laboratories, Subject 44 and 854 (XHHW, SIS, USE, A, B, or C applications and VW-1). Exact extrusion characteristics will, of course, be dependent on the equipment in use and can be determined only during cable trials.Hopper drying at 150°F (65°C) before extrusion is recommended to remove moisture and diminish the possibility of die drool.
DRYING TIME 4-6 HRS.Extrusion Profile
Compound: HFDA-6522 on #14 7/STR (1.84 mm) Bare Copper, .030 in, 3 1/2 in Extruder
Head: 235°F (113 °C)
Die: 180°F (82°C)
Zones: 235, 235, 235, 240, 250°F (113, 113, 113, 115, 121°C)
Screw: 180°F (82°C)
Stock: 245°F (118 °C)
Speed: 300 FPM (30 sec. steam leg residence time)

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