PNU-56210

C6-56958
C6-56961

DEFINITION

PNU-56210 is an electronics grade; unfilled, room temperature fast curing; **two-component polyurethane encapsulant** is designed for the encapsulation of LEDs. It provides protection and bond stability from -55°C to 100°C. The clarity of **PNU-56210** allows examination of all encapsulated components and circuit boards. **PNU-56210** is available in self-mixing **MixPac** ® cartridges for field use and in plant applications.

- **Very low viscosity for fast fill and void free encapsulation**
- **Water Clear for optical clarify**
- **Fast cure at room temperature**
- **Tough & Durable cured material**

PRODUCT DESCRIPTION

Appearance	Liquid
Odor	Faint
Color (May be modified to meet you requirements)	WATER CLEAR (& colors)

Property	**Result**	**Methods**
Viscosity	500 mPa·s	Brookfield RVT, Spindle 27, Small Sample Adaptor, 10 rpm, 25°C

Other information	
Work life time @ 25 ± 2ºC	9 minutes
Gel Time @ 25°C	15 minutes
Full Cure Time @ 25°C	24 hours (in thin films)
Possible alternate curing cycles	30 seconds @ 65°C (149°F) 10 seconds @ 95ºC (203°F)
Mix Ratio:	1:1 Weight and Volume
Specific gravity @ 25ºC (g/cm³)	1.15
Storage stability (unmixed)	1 year at room temperature

APPLICATION PROPERTIES

- **PNU-56210** polymer backbone provides excellent flexibility at low and high temperatures, UV and moisture resistance.
- **PNU-56210** has low shrinkage on curing.
- **PNU-56210** has excellent adhesion to most substrates without primers.
- **PNU-56210™** is unaffected by soldering or cleaning processes.

APPLICATION RECOMMENDATIONS

- Because of the high reactivity, of the components of **PNU-56210**, it is recommended that **PNU-56210** be used in the MixPac™ dispensers or meter mix machines. See packing requirements.

TYPICAL PROPERTIES OF CURED PNU-56210

The properties set out below were determined following measurements carried out in the laboratory over a small number of tests. They are values given by way of guidance, and do not constitute a guarantee. It will be for the user, in all cases, to carry out their own tests to determine whether the **PNU-56210** resin can be used for the particular application the user has in mind.

Properties	**Methods**	**Units**	**Typical values**
Shore A hardness	ASTM D2240	-----	70
Shrinkage, 24 hr @ 25°C	-----	%	0.77
Lap shear to AL @ 25°C(2024 T3)	ASTM D3163	psi	< 2,000
Glass Transition Temperature (Tg)	DSC 1	°C	-38
Water absorption	**85^{0}C** 24 hours **immersion** in water. Room temp immersion	% %	1.04 0.08

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ELECTRICAL PROPERTIES

Properties	**Methods**	**Units**	**Typical values**
Volume Resistivity • 100 V • 500 V	ASTM D257	Ω-cm	• 6.5×10^{13} • 4.6×10^{13}
Dielectric Constant • 120 Hz • 1000 Hz	ASTM D150	--	• 4.63 • 4.41
Dissipation Factor • 120 Hz • 1000 Hz	ASTM D150	--	• 0.027 • 0.027

PRECAUTIONS IN USE

Refer to the attached material safety data sheet.

PACKAGING

PNU-56210 is available in two-part **MixPac**® and as kits for meter mix systems. For part number and kit size information please contact Protavic America, Inc.