A109-DFT

Dual cure flexible adhesive: UV-Heat cure adhesive – Filters light (opaque white-tan-reddish)

DUAL CURE Flexible adhesive with high Depth UV cure and LIGHT FILTERING

PRODUCT DESCRIPTION:

- Base chemistry: acrylate, radical polymerization
- One component adhesive ready for use, solvent-free, UV and/or heat curing, thixotropic.

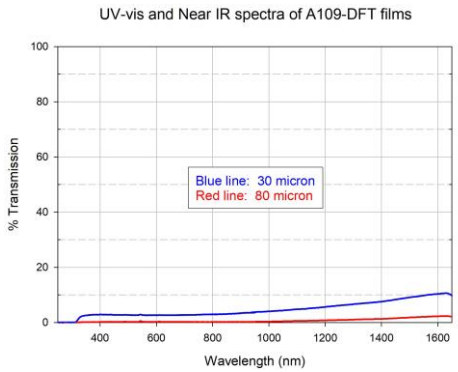
PRODUCT USE:

- Conformable, flexible for damping and stress absorption performances
- Light filter, stress release adhesive

FEATURES:

- Low modulus, high elongation, stress absorption, high adhesion to various substrates.
- Meet MIL STD 883/5501 outgas standard
- Possible bond line thickness: 20 – 1,000 micron.
- Filtred light at thickness >30 µm

UV-VIS and near IR spectra: light filtered



GENERAL USAGE INFORMATION:

Shipment: no restriction on shipment

Storage: store A109-DFT at 15-30 °C (RT) in the original container is required

SAFETY AND HANDLING

The uncured adhesive can be cleaned from apparatus with isopropyl alcohol (IPA), methyl ethyl ketone (MEK), acetone or commercial alcohol based cleaning solution. Avoid direct skin and eye contact. Use only in well ventilated areas. Use protective clothing, **gloves and safety goggles**. Read Safety Data Sheet before handling.

CURING CONDITIONS: UV + heat

1) UV + Heat curing: both UV and heat are used in the curing process

First step: UV cure

*Metal halide/Mercury UV: UV-A (320-400 nm), intensity: 100-1,000 mW/cm^2

*or LED-365 nm, UV light intensity: 200 to 1,000 mW/ cm^2

LED-365 nm		**Metal Halide/Mercury (UV-A: 320-400 nm)**	
UV intensity (mW/cm^2)	x time (sec)	UV intensity (mW/cm^2)	x time (sec)
100	20 to 40 sec	100	20 to 40 sec
or 200	10 to 20 sec	or 200	10 to 20 sec
or 500	2 to 10 sec	or 500	2 to 10 sec
or 1,000	1 to 5 sec	or 1,000	1 to 5 sec

Second step: heat cure: the adhesive is exposed to UV light first, then heat cure 85°C to 100°C for 60 minutes

The adhesive is expected to be cured in the absence of air or sandwiched between two substrates. If the adhesive surface is exposed to air during cure, surface tackiness might result. Surface tackiness will not have a negative effect on adhesive performance.

The recommended UV cure dose is at the adhesive; if the substrate absorbs curing light, then the actual cure time needs to be increased.

TYPICAL PROPERTIES

Liquid (thixotropic)	
Viscosity at 25 °C, mPa.s or cps (shear rate: 10/s)	13,000 to 16,000
Thixotropic index (shear rate: 1/s over 10/s)	2.5
Density (g/mL)	1.3
Shelf life @ 15-30 °C:	3 months
Pot life or working life (15 - 30°C):	1 month
Cured film	
Appearance of cured adhesive	opaque yellow to tan
Cured film properties (continued)	
Outgas, weight % (per MIL-STD 883/5011)	0.52
Shrinkage (volume, %)	1
Hardness, shore D	55
Glass transition temperature (DMA, °C)	59
Physical properties tested at 25°C, 50% RH (ASTM D638)	
Tensile strength, MPa	16
Elongation (%)	100
Young's Modulus, MPa	270
Operating temperature, °C	-40 to 140

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