Bufferlite™
Optical Fiber Coatings

Product Data

Bufferlite™ DU-1002

Product Description

Bufferlite™ DU-1002 is a soft, flexible product used for the inner layer for tight buffer applications. This material can be used to buffer fiber up to 500 microns and allows for an overcoat with a tough UV or thermoplastic outer layer.

Product Benefits

- Fast cure
- Low modulus
- Excellent strippability
- Patent-protected

Performance Characteristics

Liquid Coating	**Typical Properties**
Viscosity, 25°C, mPa·s	3000
Density, 23°C, kg·m^{-3}	1030

Cured Coating* (Tested at <1% R.H.)	**Typical Properties**
Glass Transition Range (DMA**), °C at E' $_{1000\ MPa}$	-56
Glass Transition Range (DMA**), °C at E' $_{100\ MPa}$	-46

Cured Coating* (Tested at 23°C, 50% R.H.)	**Typical Properties**
Secant modulus, 2.5% strain***, MPa	2.6
Elongation***, %	38
Tensile strength***, MPa	0.8
Degree of Cure (UV dose at 95% of Ultimate Secant Modulus, J·cm^{-2})	0.45
Water Absorption after 24 hrs., 250 µm films, %	1.4
Hydrogen generation (24 hrs, 80°C in air, 75 µm films, µl·g^{-1})	2.0

*75 µm films cured in nitrogen at 1.0 J·cm^{-2} using one D lamp, unless stated otherwise. UV dose determined with an IL-390 radiometer manufactured by International Light, Inc.

**Dynamic Mechanical Analysis (see DMA graph)

**TEM properties were obtained on glass after 1 to 2 hours conditioning at 22 +/-2°C and 50% +/-5 RH.

Updated: 3/07

Bufferlite™ DU-1002 Series

Test Methods

Detailed test methods may be obtained through your DSM Desotech sales representative.

Storage Conditions

Protect Bufferlite™ resins from all sources of ultraviolet light, including sunlight and fluorescent light, to prevent premature curing.

It is recommended that Bufferlite™ resins be stored in a dry place in unopened, undamaged, original containers at temperatures between 15°C and 30°C. Storage or shipment in cold conditions may result in a phase separation which is reversible and is corrected by heating for 24 hours at 50°C. If possible, the container should be gently rolled to assure uniform dissolution during this heating process.

Safety Information

This product is formulated with multifunctional acrylates which may cause skin and eye irritation and/or skin sensitization. DSM Desotech makes available a booklet titled, "Safe Handling of UV-Curable Materials" which describes the proper use of its UV-curable products. This booklet may also be found online at www.dsmdesotech.com. Material safety data sheets for each product are also available from your DSM Desotech sales representative. All safety and handling recommendations should be followed carefully.

Conversions

$N = g \cdot f \times 9.807 \times 10^{-3}$ $kg \cdot mm^{-2} = MPa \times 0.102$

$psi = MPa \times 145$ $mPa \cdot s = cps$

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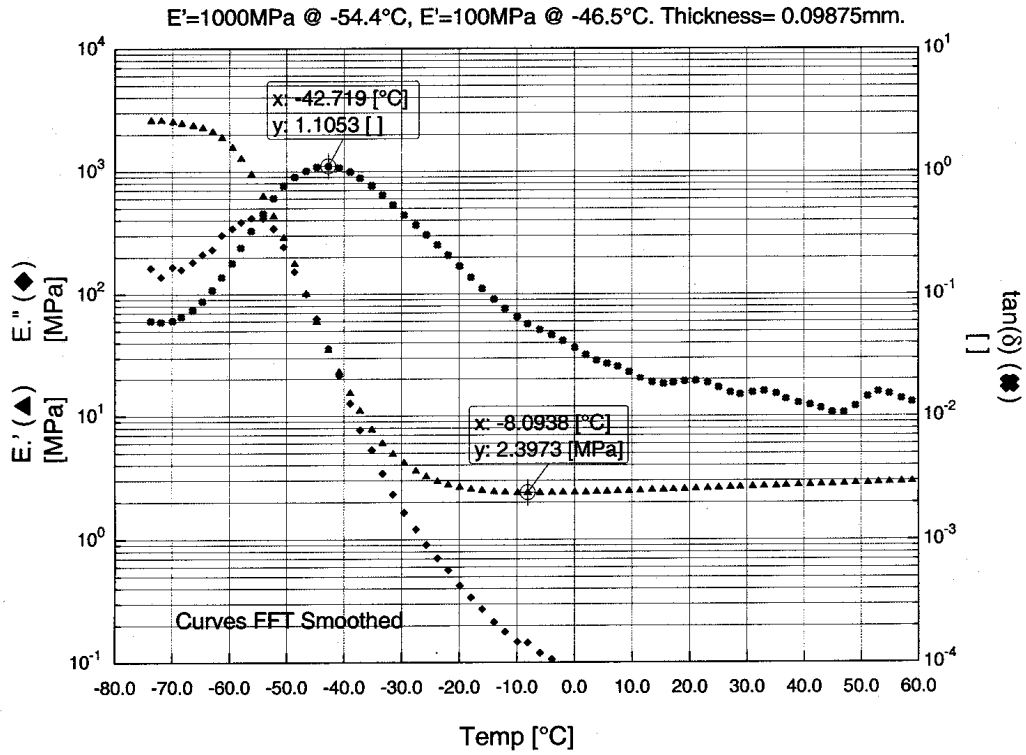
Dynamic Mechanical Analysis (DMA)



Viscosity vs. Temperature