DeSolite®
Optical Fiber Coatings

Product Data

DeSolite® DF-0009

Product Description

DeSolite® DF-0009 is an optical fiber single coat designed for higher temperature fiber applications.

Performance Characteristics

Liquid Coating	Typical Properties
Viscosity, 25°C, mPa·s	6,700
Density, 23°C, kg·m^{-3}	1,120
Liquid Refractive Index, 23°C	1.520

Cured Coating* (Tested at <1% R.H.)	Typical Properties
Glass Transition Range (DMA**), °C at E' $_{1000\ MPa}$	2
Glass Transition Range (DMA**), °C at E' $_{100\ MPa}$	48
Cured Refractive Index	1.540
TGA weight loss 120 hrs @ 200° C, %	9.9

Cured Coating* (Tested at 23°C, 50% R.H.)	Typical Properties
Secant modulus, 2.5% strain, MPa	700
Elongation, %	15
Tensile strength, MPa	23
Degree of Cure (UV dose at 95% of Ultimate Secant Modulus, J·cm^{-2})	0.9

*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)

Updated: 12/08

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Test Methods

Please refer to your DeSolite® Product Manual for test methods used to establish the data presented herein. Detailed test methods may be obtained through your DSM Desotech sales representative.

Filtration

DeSolite® materials are manufactured using fine filtration techniques designed to minimize particulate matter and to ensure high strength and uniform product performance.

Storage Conditions

DeSolite® materials should be stored in their original containers at temperatures between 15° and 30°C. The bottles that are used for these are UV opaque and allow for air to diffuse through the plastic which prevents premature gelation.

Shelf Life

DeSolite® materials have a shelf life of 18 months from the date of manufacture, provided recommended storage conditions are properly maintained.

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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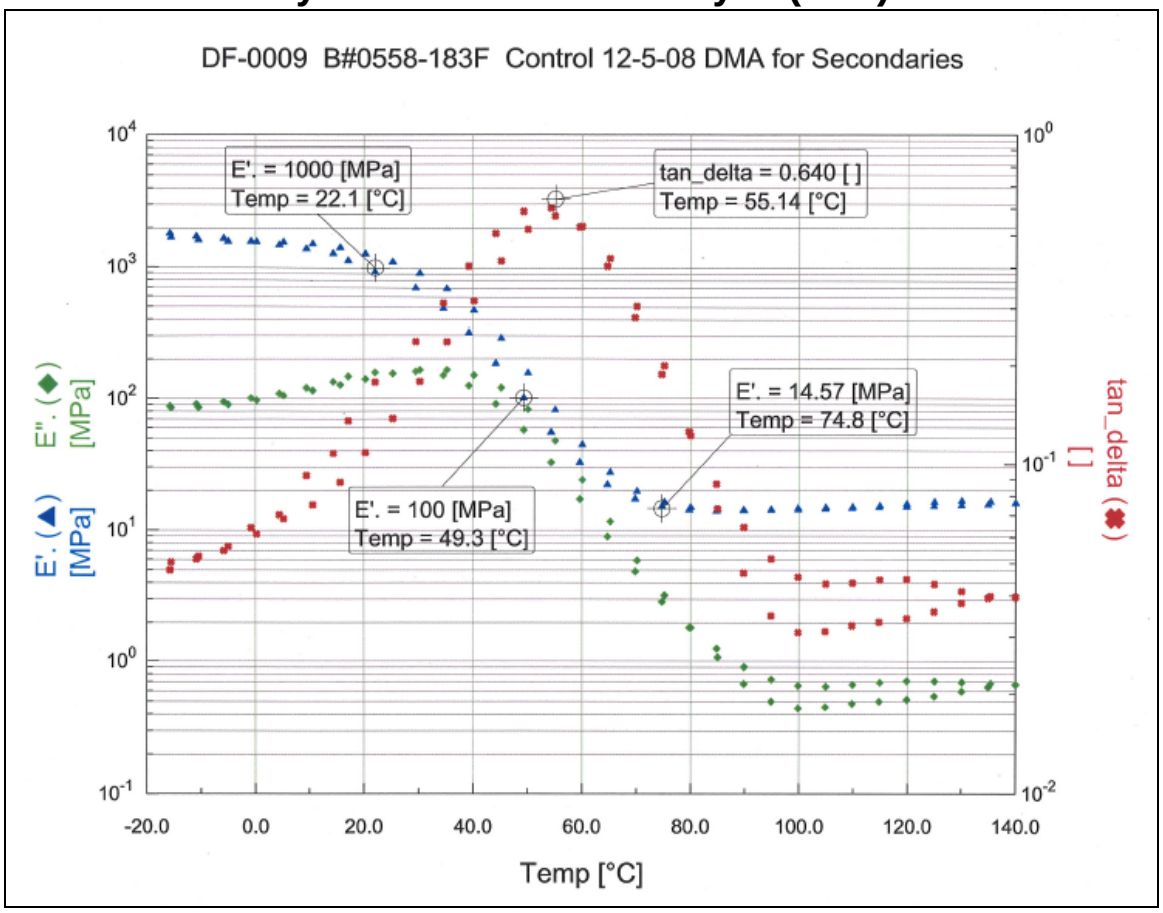
Dynamic Mechanical Analysis (DMA)



Temperature/Viscosity Curve of DF-0009