

# TECHNICAL DATA SHEET

EFIRON<sup>®</sup> Polymer Clad  
Series

**SPC-414**



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## **A. MATERIAL DESCRIPTION**

EFIRON<sup>®</sup> SPC-414 coating is a radiation-curable acrylate useful for polymer cladding making processes. EFIRON<sup>®</sup> SPC-414 coating has suitable glass transition temperature, rapid cure property, non-yellowing, thermal resistance, high oxidative and hydrolytic (moisture) stability, which are required by optical fiber industry applications.

### **1. CURING CONDITION**

Minimum UV dose of EFIRON<sup>®</sup> SPC-414 for complete cure is 1000 mJ/cm<sup>2</sup> under a nitrogen environment. However, the minimum dosage is heavily dependent upon the thickness of the PC layer.

### **2. STORAGE**

EFIRON<sup>®</sup> SPC-414 polymer cladding coating can polymerize under improper storage conditions. Store materials away from direct sunlight and presence of oxidizing agents and free radicals. Storage temperature range is between 10°C to 30°C.

### **3. PRECAUTION**

EFIRON<sup>®</sup> SPC-414 polymer cladding coating materials can cause skin and eye irritation after contact. Therefore, avoid direct contact with these materials. If contact occurs, immediately rinse affected areas copiously with water.

### **4. NOTES**

The information contained herein is believed to be reliable but is not to be taken as representation, warranty or guarantee and customers are urged to make their own tests.

## B. MATERIAL PROPERTIES

### 1. LIQUID

Viscosity	at 25 °C	4,800 cPs
Density	at 20 °C	1.52 g·cm <sup>-3</sup>
Refractive Index	at 25°C, 589 nm	1.407
Surface Tension		In Testing

### 2. CURED

Refractive Index	at 852 nm	1.414
Glass Transition Temperature		
At Tan_delta Max		98°C
Secant Modulus		
At 2.5% Strain		360 MPa(In Testing)
Tensile Strength at Break		22 MPa(In Testing)
Elongation at Break		15 %(In Testing)
Water Sensitivity (24 Hour, 50 °C)		
Weight Change		In testing
Extractable		In testing
Coefficient of Expansion		
Glassy Region		In testing
Rubbery Region		In testing
Shrinkage on Cure		<10.0 %

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