



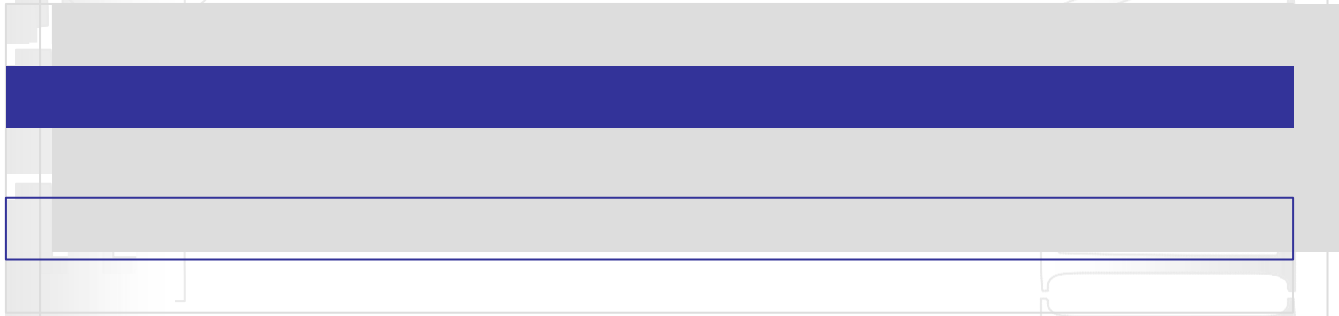
Optical Solution Provider

Technical Data Sheet

EFIRON[®] UVF

EFIRON[®] Color Coating series

UVF3000S Color Ink



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Rev. 01

Revised Date: March 21, 2015

The Term of Validity: March 21, 2015 ~ March 21, 2016



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A. MATERIAL DESCRIPTION

EFIRON™ UVF 3000S Coloring Ink is a radiation-curable composition for optical fiber color coating processes. The ink has good adhesion property, suitable viscosity, rapid cure speed, non-yellowing property, thermal resistance, high oxidative and hydrolytic (moisture) stability, which are required by optical fiber industry applications.

1. CURING CONDITIONS

EFIRON™ UVF 3000S Coloring Ink has fast cure speed, so it can be applied to 2,100 m/min lines.

Machine	OFC 52,55(Nextrom)	Medek
Lamp type	H, D bulb	H, D
Power unit	Fusion F600S	M550
Power supplier	P600M	
Lamp unit	3	2
Bulb length	10 inch	21 inch
Source Power	100%	PUV 1000 @ 1400mpm
	(1000 ~ 1800mpm)	
Ink Temp.	25 ~ 40 °C	25 ~ 40 °C
Ink pressure	1.5~3.8 bar @ 0~1600 mpm	
Nitrogen flow	45 L/min	45 L/min

2. STORAGE

EFIRON™ UVF 3000S Coloring Ink can be polymerized under improper storage conditions. Store materials away from direct sunlight and presence of oxidizing agents and free radicals. Storage temperatures should not exceed 40 °C, preferably 10~30 °C. Under this condition, shelf life is 12 months.

3. PRECAUTIONS

EFIRON™ UVF 3000S Coloring Ink can cause skin and eye irritation after contact. Therefore, avoid direct contact with this material. If contact occurs, immediately rinse affected areas copiously with water.

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4. COLOR SPECIFICATIONS

Color	EIA-359-A (10Color) TIA/EIA-598-A (Pink, Aqua)	EFIRON UVF 3000S
Blue	7.5B~5PB 3~5.2 / 8~	9B~2PB 4~5 / 10~13
Orange	10R~5YR 5~7 / 10~	8R~2YR 5~6 / 12~
Green	9GY~5G 4~6 / 8~	2G~5G 5~6 / 9~11
Brown	7.5R~7.5YR 2.5~4.5 / 4.5~8	8R~2YR 3~4 / 4.5~6.5
Gray	For any hue 4.5~6 / 0~0.5	For any hue 4.5~6 / 0~0.5
White	5RP~5GY 8.75~>8.75 / 0~1 10RP~5RP 8.75~>8.75 / 0~0.5	For any hue 8.75~ / 0~0.5
Red	10RP~5.5R 3~5 / 10~	1R~5R 3.5~5 / 12~
Black	For any hue 0~2.3 / 0~	For any hue 1~2.3 / 0~0.5
Yellow	1.25Y~8.75Y 7.5~>7.5 / 8~	1.5Y~5Y 7.5~9 / 9~12
Violet	10PB~5P 3~5.5 / 5.5~	1P~6P 3~5 / 8~11
Pink	7.5PR~2.5R 7~>7 / 4~	1R~2.5R 6.5~8 / 6~9
Aqua	5BG~5B 6~8 / 4~	1B~5B 6~7 / 5~8

1. Test Sample Condition: Color INK Coated Fiber

2. Test Equipment: Minolta CM3700D

5. 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.

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B. MATERIAL PROPERTIES

1. LIQUID COATING

1-1. Viscosity & Specific Gravity at 25°C

Product	Viscosity [Unit : cPs]	Specific gravity
UVF 3000S	2,000~3,000	1.11~1.20

2. CURED COATING

Modulus (at 0.5 J/cm ²)	900~1000 MPa
Elongation	3~5%
Tensile strength	20~25 MPa
Glass Transition Range, at E` _{1000Mpa} ~ E` _{100Mpa}	> 80 °C
MEK rubbing	> 200
Ethanol rubbing	> 200
Soxhlet Extractions with MEK	> 92 %
Attenuation Δ dB	< 0.005
Jelly Test (120 °C × 120hrs × OP300)	Pass

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C. APPENDIX

1. TEST EQUIPMENT

Property

Viscosity (cPs)

Specific gravity

Solvent Extraction (Soxhlet)

Young's Modulus (MPa)

Elongation (%)

Tensile Strength (MPa)

Tg (°C)

Optical Loss

Munsell data

Equipment

Brookfield DV II+, DV III+

Sheen 1501/100 Pyknometer S967880

Extraction Equipment

Instron 4443 UTM

Instron 4443 UTM

Instron 4443 UTM

DMTA / DSC

OTDR

Minolta CM3700D

2. TEST METHODS

Property

Viscosity (cPs)

Specific gravity

Soxhlet Test

Young's Modulus (MPa)

Elongation (%)

Tensile Strength (MPa)

Tg (°C)

Method

ASTM D-1084 Method B

ASTM 1475

Solvent Extraction

ASTM D-638

ASTM D-638

ASTM D-638

DMTA Test