TECHNICAL DATA SHEET

ZEFFLE GK-870

Next Generation Fluorourethane

Fluoropolymer, Weather, Chemical/ Solvent, and Stain Resistant Coating

Characteristics

Solventborne copolymer of tetrafluoroethylene and vinyl monomer

Chlorine free

Excellent weather resistance with decades of performance

Anti-corrosion, chemical resistance, and staining reduction / elimination

Various gloss and colors can be obtained

Curing from room temperature to 150°C

Cured with polyisocyanate or melamine-type crosslinking agents

Applications can be performed by various methods, including spraying, brushing, roller painting and in roll to roll processes

Low vapor permeability

Common ZEFFLE Applications:

Photovoltaic Backsheets

Industrial Paints

Protective Films

- Overlaminates
- Signage
- Automotive
- Window

Electronics Coatings

Chemical Resistant Topcoat

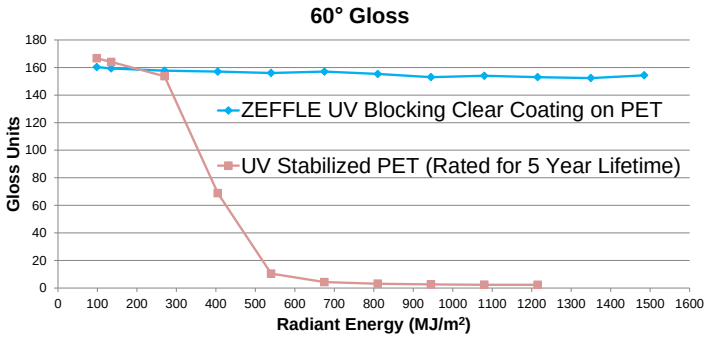
Real World Performance:

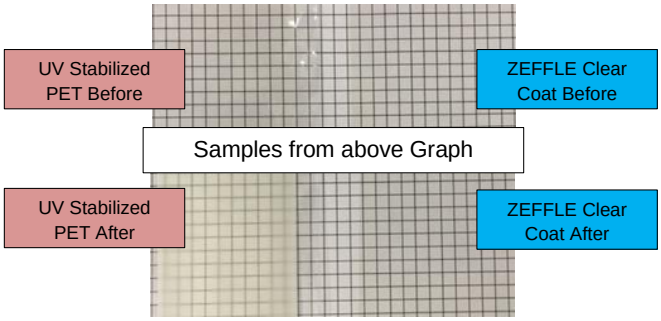
ZEFFLE GK-870 (TFE Based)

Competitor FEVE (CTFE Based)

Corrosion test (clear coat on Stainless Steel without primer):
4 years real world outdoor exposure in semi-tropical marine environment (Miyakojima Island in Okinawa, JP)

Xenon Arc Weathering of ZEFFLE Clear Coat on PET





Property	Value
Resin Viscosity (25°C; 10 sec^{-1})	550-1300 cps
Molecular Weight	Moderate
Resin Solids (wt%)	65%
Tg (°C)	25-28
OH Value (mg KOH/g polymer)	61-65
Acid Value (mg KOH/g polymer)	< 5
Solvent Blend	n-butyl acetate
VOC (Calculated via EPA Method 24)	396 g/L

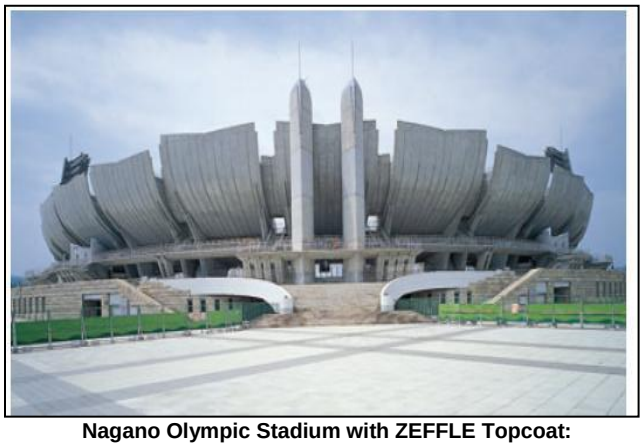
Recommended Curing:

For Films

120°C for 5-6 minutes film temperature OR
150°C for 2 minutes film temperature
Cool to 40°C before rolling
Allow extended curing at 40 to 60°C for 2-3 days

For Paints

Ambient cure for ~72 hours or use catalyst or elevated curing temperatures.



Nagano Olympic Stadium with ZEFFLE Topcoat: Completed in 1996

Comparison Chart

(Immersion Testing)

	Test Conditions	ZEFFLE	Current Acrylic Silicone	Current Acrylic Urethane
8% Buffered HF	1 hr @ RT	A	B	C
50% HF	1 hr @ RT	A	C	C
60% Sulfuric Acid	24 hr @ RT	A	A	A
	2 hr @ 60°C	A	A to B	B
50% Nitric Acid	2 hr @ RT	A to B	C	C
35% HCl	2 hr @ RT	A	A	A
50% Acetic Acid	2 hr @ RT	A	A to B	A to B
10% NaOH	14 days @ RT	A	A to B	A to B
10% H_2O_2	14 days @ RT	A to B	B	C
Butyl Acetate	24 hr @ RT	A	A to B	A to B
MEK	24 hr @ RT	A	A to B	A to B
Chloroform	24 hr @ RT	A	A to B	B
Petroleum Benzene	24 hr @ RT	A	A to B	B

Notes: A (Excellent), B (Fair), C (Poor)

UV Protection of PET	
Xenon Arc Testing	
1500 hrs Modified ASTM G-155 Cycle 1 from 0.35 to 1.5 W/m^2	
White Outer Layer	**20° Gloss Retention**
ZEFFLE	95%
PVdF	71%
PVF	9%
UV Stabilized PET	4%

For more information please contact Daikin America, Inc.
surfacetechnologies@daikin-america.com
Or visit www.daikin-america.com/surfacetechnologies.