



# SANHO CHEMICAL CO., LTD.

NO. 1 CHUNG SHAN S. RD., LU-CHU, KAOSHIUNG, TAIWAN.

TEL : 886-7-6962211~3

http : // www.sanho.com.tw

FAX : 886-7-6976993 (Sales)

E-mail : sanho@sanho.com.tw

FAX : 886-7-6961782 (Export)

E-mail : sanho@so-net.net.tw

## FUJICURE FXM-823B

FUJICURE FXM-823B is a modified aromatic amine-based curing agent for liquid epoxy resins designed to operate down to the exceptionally low temperature of 0°C. It is compatible with certain coal tar fractions and has excellent pigment-wetting properties. It cures in high humidity and under water and is further characteristic by the excellent chemical resistance especially to mineral acids, alkalis and organic acids.

The principal applications : Dark colored coatings for corrosive environments such as chemical and oil tanks . Dark colored flooring and coal tar-epoxy coatings. Civil engineering applications , including the surface and repair of roads and bridges and in bridge nosing compounds. Not suitable in food factories.

### 1. SPECIFICATIONS

Appearance	: A free flowing reddish-brown liquid.
Viscosity	: 1,000 ~ 1,400 mPa · s (25°C)
Colour (Gardner )	: 12 Max.
Amine Value	: 275 ↑ 10
Specific Gravity	: 1.16 ( 25/25°C)
Flash Point	: 128°C
AHEW	: 98

### 2. RECOMMENDED MIXING RATION

40 ~ 60 parts by weight to 100 parts of liquid epoxy resin whose epoxy equivalent weight is about 190.

### 3. CURING CHARACTERISTICS

#### (1) Exothermic Reaction

Epoxy resin : employed bisphenol-A type epoxy resins whose EEW is about 190.

Total mass : 100g

Room temperature : 23°C

Epoxy resin / FUJICURE FXM-823B	100 / 40	100 / 50	100 / 60
Peak exothermic time (min.)	66	43	32
Peak exothermic temp. (°C)	105	140	145

#### (2) Drying Characteristics

The drying characteristics of the coated films of the mixture resin of FXM-823B and the epoxy resin as employed above were measured by RCI DRYING RECORDER as follow :



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Epoxy resin / FXM-823B		100 / 40	100 / 50	100 / 60
23°C	Set to touch (hours)	3.4	2.4	2.2
	Tack free (hours)	6.1	4.2	4.1
	Dry through (hours)	9.1	6.1	7.0
10°C	Set to touch (hours)		3.5	
	Tack free (hours)		10.0	
	Dry through (hours)		19.5	

©Film thickness about 150um, at 23°C and 10°C

## 4. MECHANICAL / PHYSICAL PROPERTIES

The mechanical properties of the cured products of the FUJICURE FXM-823B and the same epoxy resin as employed above were measured as follow;

Epoxy resin / FXM-823B		100 / 40	100 / 50	100 / 60
Tensile Strength	(kgf/mm <sup>2</sup> )	6.0	6.8	6.5
Flexural Strength	(kgf/mm <sup>2</sup> )	7.5	9.0	8.8
Flexural Modulus	(kgf/mm <sup>2</sup> )	2.6×10 <sup>2</sup>	3.2×10 <sup>2</sup>	3.3×10 <sup>2</sup>
Compressive Strength	(kgf/mm <sup>2</sup> )	8.6	8.8	8.2
Izod Impact Strength	(kgf-cm/cm)	1.5	1.9	2.3
Rockwell Hardness	(M-scale)	78	83	79
Heat Distortion Temp.	(°C)	41	49	50

## 5 CHEMICAL RESISTANCE

Percentage increase in weight of the cured products of FUJICURE FXM-823B and the same epoxy resin as employed above were measured as follow after being cured at 22~23°C for 1 days, 7days and 30 days, and immersing into respective chemical substances.

Epoxy resin / FXM-823B	100 / 40			100 / 50			100 / 60		
	1	7	30	1	7	30	1	7	30
Tap water (23°C)	0.2	0.5	1.0	0.1	0.5	1.1	0.1	0.5	1.1
5% Salt solution	0.1	0.4	0.9	0.2	0.5	1.0	0.1	0.4	1.1
10% Caustic soda solution	0.2	0.3	0.8	0.1	0.4	0.9	0.1	0.3	0.8
10% Ammonia solution	0.2	0.5	1.3	0.3	0.7	1.6	0.3	0.8	1.7
5% Sulfuric acid solution	0.2	0.4	0.9	0.2	0.4	1.0	0.2	0.5	1.1
5% Hydrochloric acid solution	0.1	0.4	0.9	0.2	0.5	1.0	0.1	0.4	1.0
Kerosene	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Isopropanol	0.1	0.4	1.0	0.1	0.4	1.1	0.0	0.6	1.3
MIBK	3.4	9.8	11	1.3	4.1	8.5	1.1	3.6	7.4
5% Nitric acid				0.2	0.5	1.1			
10% Acetic acid				0.1	0.6	1.0			
20% Sulfuric acid				0.1	0.5	1.0			
Toluene				0.1	1.5	4.1			
60°C warm water				0.5	0.8	0.8			



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### **6 HANDLING (SAFETY) PRECAUTIONS**

Since FUJICURE FXM-823B is a modified-amine curing agent, it should be handled with normal care.

Avoid direct contact with any parts of human body. In the case of eye or skin contamination with FXM-823B, the affected part must be first washed thoroughly with plenty of water and soap.

In the case of eye contact, consult a physician afterwards. Keep the container tightly sealed and store in a cool and dry place away from open flames.

### **7 IMPORTANT NOTICE**

All statement technical information, data and recommendations contained in the catalogue are based on tests we believe to be reliable but those are not to be taken as any form of our guarantees for specific properties of our product, nor for any particular applications.

Further study of individual user is requested in the actual usage. User shall determine the suitability of the product for his intended use before using.