



# **SANHO CHEMICAL CO., LTD.**

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## **FUJICURE 4233**

FUJICURE #4233 is low viscosity type epoxy curing agent.of modified cycloaliphatic polyamine. FUJICURE #4233 is small in its color number and therefore high in its transparency of the used products Cure at an ambient temperature gives somewhat less tough property while cure through eating improve its higher order.

### **1. SPECIFICATIONS**

Appearance	: Light yellow colour low viscous liquid.
Viscosity (mPa · s/25°C)	: 650 ~ 900
Amine Value (JIS)	: 380 ± 15
Color ( Gardner )	: 2 Max .
Specific Gravity (25 / 25°C)	: 0.95
Flash Point	: 141°C
A.H.E.W.	: 82

### **2. RECOMMENDED MIXING RATIO**

40~50 parts by weight to 100 parts of bisphenol-A liquid whose epoxy equivalent weight is about 190.

### **3. CURING CHARACTERISTICS**

3-1 Exothermic Reaction.

Epoxy resin	: bisphenol-A type liquid whose epoxy equivalent weight is about 190.
Total mass	: 100g
Room temperature	: 23°C

Epoxy resin / FUJICURE 4233	100 / 33	100 / 43	100 / 53
Peak exothermic time. (min.)	55	42	42
Peak exothermic temp. (°C)	150	178	178
Gel time (min.)	44	40	38



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### **3-2 Drying Characteristics**

Epoxy resin : bisphenol-A type liquid whose epoxy equivalent weight is about 190.

By RCI Drying Recorder : At 23°C and 5°C

Epoxy resin / FUJICURE 4233		100 / 33	100 / 43	100 / 53
23°C	Set to touch (hours)	2.3	1.9	1.4
	Tack free (hours)	3.1	2.2	2.8
	Dry through (hours)	12.5	8.5	6.9
5°C	Set to touch (hours)	6.0	6.3	6.9
	Tack free (hours)	7. 8	7. 5	7. 6
	Dry through (hours)	17.7	16.8	15.9

◎Film thickness about 150um

### **4. MECHANICAL PROPERTIES**

Epoxy resin : bisphenol-A type liquid whose epoxy equivalent weight is about 190.

Precured at 23°C for one day After this cured at 80°C for 2 hours

Epoxy resin / FUJICURE 4233		100 / 33	100 / 43	100 / 53
Tensile Strength	(kgf/mm <sup>2</sup> )	8.5	9.4	8.8
Bending Strength	(kgf/mm <sup>2</sup> )	13.4	12.9	12.7
Flexural Modulus	(kgf/mm <sup>2</sup> )	4.5×10 <sup>2</sup>	4.3×10 <sup>2</sup>	4.4×10 <sup>2</sup>
Compressive strength	(kgf/mm <sup>2</sup> )	12.4	11.9	11.4
Izod Impact Strength	(kgf/cm-cm)	2.3	1.8	2.5
Rockwell Hardness	(m-scale)	93	99	94
Shore D.		85	87	86
Heat Distortion Temp	(°C)	62	79	73

### **5. CHEMICAL RESISTANCE**

Epoxy resin : bisphenol-A type liquid whose epoxy equivalent weight is about 190

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Measured the weight change of the cured products after immersing them into following chemical substrates



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Unit : %

Epoxy Resin / F-4233	100 / 33			100 / 43			100 / 53		
Immersing time (days)	1	7	30	1	7	30	1	7	30
Tap water (23℃)	0.0	0.3	0.6	0.0	0.3	0.6	0.0	0.3	0.6
Tap water (40℃)	0.3	0.8	1.5	0.3	0.7	1.4	0.3	0.8	1.6
5% salt water solution	0.0	0.2	0.5	0.0	0.3	0.6	0.0	0.3	0.6
10% caustic soda solution	0.0	0.2	0.5	0.0	0.2	0.6	0.0	0.2	0.6
10% ammonia solution	0.0	0.3	0.7	0.0	0.30	0.7	0.1	0.3	1.7
5% sulfuric acid solution	0.1	0.3	0.7	0.1	0.4	0.8	0.2	0.5	1.0
5% hydrochloric acid solution	0.0	0.3	0.6	0.1	0.3	0.7	0.1	0.4	0.8
Kerosene	-0.1	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1
Isopropanol	-0.1	-0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Methyl isobutyl ketone	-0.5	1.1	broken	-0.1	0.0	7.0	0.1	0.0	0.0

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

Since FUJICURE FXD-821 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 FXD-821, 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 guar-antes 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.