

EPOKEY 813, 891

Epokey 813 and 891 are the high molecular 1K epoxy resin, mainly used for primer of metal. These resins are thermoplastic air dry type, also react with amino resin or isocyanate to make cross-link.

◆ FEATURES

- Excellent workability : one component
- Excellent adhesion for metal
- Excellent corrosion resistance
- Good chemical resistance
- Drying speed 813 → 891 (fast)

◆ SPECIFICATION

	813	891
Appearance	Clear	Clear
Non-Volatile (%)	45±1.5	40±1.5
Viscosity (GH/25°C)	V ~ Z3	Z ~ Z4
Internal solvent (%)		
Toluene	50	42
MEK	20	-
IPA	10	-
MA	6	-
PMA	4	10
PEA	-	5
Ethyl acetate	-	22
sec-Butanol	-	18
n-BuOH	10	-
PM	-	3

MA : 3-Methoxy butyl acetate

PMA : Propylene glycol mono methyl ether acetate

PEA : Propylene glycol mono ethyl ether acetate

PM : Propylene glycol mono methyl ether

◆ PROPERTY TEST

Drying speed

- Dry Temp : 20°C
- Substrate : SPCC-SB (Polish steel plate)
- Thickness : 10 μ (dry)
- Adjust viscosity to NV=30% by the Thinner
(Thinner: Toluene / PMA / MEK / n-butanol / IPA = 4 / 2 / 2 / 1 / 1)

Drying time vs. Pencil hardness

Drying time	813	891
20min	6B	4B
60min	4B	B
120min	2B	H
300min	F	H
48Hr	H	H

Film Test

Formulation (Rust prevention)

- Pigment : Aluminum tri phosphate(PM300C) / TiO₂ = 1 / 1
 Ratio : Epokey / Pigment = 50 / 50 (PWC=50%)
 Thinner : Toluene / PMA / MEK / n-butanol / IPA = 4 / 2 / 2 / 1 / 1

Coating Schedule

①Primer / Epokey

- Substrate : SPCC-SB (Polish steel plate t=0.8mm)
 Thickness : 12-15 μ (dry)
 Dry condition : 60°Cx10min

②Top layer / Thermoplastic acryl paint .

- Thickness : 15 μ /dry
 Dry condition : 20°Cx2days

Test results

	813	891
Appearance	Excellent	Excellent
< Physical Properties >		
Pencil Hardness	H	H
Cross cut adhesion	100/100	100/100
Du Pont Impact (1/2"Ø, 500g)	>50cm	>50cm
Erichsen	>5mm	>5mm
< Chemical Resistance >		
Salt Spray test (10days)	2mm *	<1mm *
Alkali resistance (CaCO₃ aq. 30°Cx10days)	Excellent	Excellent
Acid resistance (1%H₂SO₄ aq. 20°Cx10days)	Excellent	Excellent
Salt water resistance (2%NaCl aq. 20°Cx10days)	Excellent	Excellent

* Width of peeled-off with cellophane adhesive tape after SST(Salt Spray test)

◆ Adhesion (% , 7 days after coat)

Substrate	813	891
Polish steel plate (Fe)	100	100
Copper plate (Cu)	100	100
Aluminum plate (AL)	100	100
Tin plate (Sn)	50	50
Zinc plate (Zn)	100	100
SUS 304	80	100
Vinyl chloride	0	0
ABS	0	0
Acryl boat	100	100
Cement board	100	100
ALC (Autoclaved light weight aerated concrete)	100	100
GRC (Glassfiber reinforced cement)	100	100
Porcelain tile	100	100
Mortar board	100	100
Calcium silicate board	100	100

◆ Solvent tolerance (ml/g)

Solvent	813	891
Toluene	0.3	0.3
Xylene	0.2	0.1
SOL#150	0.2	0.1
SOL#100	0.2	0.1
MEK	1.2	1.5
MIBK	0.7	0.3
IPA	0.2	0.4
n-butanol	0.4	0.6
Ethyl acetate	0.7	0.6
Butyl acetate	0.7	0.2
PMA	1.0	0.7
PEA	0.3	0.3
Butyl cellosolve	∞	∞
Cyclohexanone	∞	∞
Tol/PMA/MEK/n-butanol/IPA =4/2/2/1/1	∞	∞
Tol/cyclohexanone/MEK/IPA =5/1/2/2	∞	∞

PMA: Propylene glycol mono methyl ether acetate

PEA: Propylene glycol mono ethyl ether acetate