

## Hardener HSC 9221

### (cycloaliphatic amine adduct)

**Product Description** HSC 9221 is liquid cycloaliphatic amine adduct curing agent; it is used in combination with unmodified/modified liquid epoxy resins for self-levelling top coat applications. It offers medium pot life, good wetting ability and high gloss coatings.

**Features**

- Low color and color stability, High gloss in coatings, Low viscosity and good wettability.

**Applications**

- Suitable for formulating self-levelling top coats with various choice of resins.

### Product Specifications

Properties	Units	Reference Standard	Value
Appearance	Visual	HTP-1	Clear Liquid
Color	Gardener	ASTM D 1544	Max 1
Viscosity @ 25°C	mPas	ASTM D 2196	350-400
Amine number	mg KOH/g	HTP-9	250-300
Density	g/ cc	ASTM D-1475	1.02-1.04
AHEW	g/eq	NA	109

### Product Performance Data

Mix Properties	Units	Reference Standard	Value
Mix ratio with Epoxy Resin of EEW~185	Pbw	NA	100:60
Mix viscosity @ 25°C	mPas	ASTM D2196	~2400
Pot life (150gm) @ 20 °C	Minutes	ASTM D 2471	30-40
Peak Exothermic Temperature 100g @ 25°C	°C	ASTM D2471	130
Time to peak exotherm	Minutes	ASTM D2471	40
Tack free dry of thin film	Hours	ASTM D5895	2-3
Through dry of thin film	Hours	ASTM D5895	5-6

### Mechanical & Thermal Properties\*

Hardness	Shore D	HTP-22	75
Tensile Strength	MPa	ASTM D638	55
Tensile Modulus	MPa	ASTM D638	2560

<b>Tensile Elongation</b>	%	ASTM D638	5.6
<b>Flexural Strength</b>	MPa	ASTM D790	72
<b>Flexural Modulus</b>	MPa	ASTM D790	2284
<b>Glass Transition Temperature</b>	°C	DSC	62

HTP: HSCL Testing Procedure

NA: Not Applicable

\*The neat cast were prepared as per respective standard and cured at Room Temperature for 7 days and then subjected to testing.

### Chemical Resistance Properties\*1

Chemicals	Units	Reference Standard	3 days	7 days	28 days
Water	%	HTP-53	0.1	0.1	0.2
Methyl Ethyl Ketone	%	HTP-53	9.75	15.02	Destroyed
Xylene	%	HTP-53	0.04	0.06	0.13
DI Water	%	HTP-53	0.32	0.54	0.96
10% Acetic Acid	%	HTP-53	1.22	2.12	3.41
98% H2SO4	%	HTP-53	Destroyed	-	-
70% H2SO4	%	HTP-53	0.31	0.32	0.36
50% NaOH	%	HTP-53	-0.06	-0.16	-0.22

\*11cc of cast was prepared, cured for 7 days at Room Temperature, immersed in respective chemical and % weight change was recorded.

### Processing and Storage

**Packing** HSC 9221 available in bulk packing of drums and container in packing size of 200 kg and 30 kg.

**Safety & Handling** Following instructions needs to be followed strictly.  
 Keep working conditions clean. Allow fresh air in, if possible, provide ventilator.  
 Avoid contact with human body directly, wear gloves and other personal protective equipment especially dust masks or respirators.  
 Wash hands carefully with soap. If possible, wash with acetone and alcohol first, then soap and water.  
 In case of eye contact, wash with running water for 15 minutes and then seek medical treatment.  
 Refer MSDS for better instruction on Safety & Handling

**Storage Conditions** HSC 9221 should be stored at room temperature free of moisture, in the original containers kept tightly closed at temperatures between 5-35°C. Container once opened should be tightly closed to avoid contamination by foreign materials. The shelf life is 12 months for all components.

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