



# Brush Setting Adhesives

## Preliminary Technical Datasheet

Nexstar offers two types of bio-based brush setting adhesives that are supplied as two or three part systems. Customers can choose depending on the bio content that they desire, as well as flexibility and permeation that can be further fine-tuned by adding solids.



### EPOXY SYSTEM STUDY

	RESIN	PARTS BY WEIGHT	CURING AGENT	PARTS BY WEIGHT	CALCULATED MIXED VALUE	POT LIFE	PERMEATION	IMPACT STRENGTH J/m ASTM D4812	SHORE HARDNESS D ASTM D 2240
<b>SYS I</b>	ER-1	100	ECA-1	70	170	25 min.	Deep	132	79.4
<b>CALCULATED BIO CONTENT</b>	72%		68.50%		44.09%				
<b>CALCULATED VISCOSITY (cP)</b>	12500		1080		7,798				
<b>SYS II</b>	50% ER-1 + 50% ER-2	100	ECA-1	50.5	150.5	30 min.	Adequate	148	69.9
<b>CALCULATED BIO CONTENT</b>	46%		68.50%		53.55%				
<b>CALCULATED VISCOSITY</b>	18750		1080		12,820				

### REGULATORY STATUS

Please refer to the material safety data sheet (MSDS). Specific information regarding chemical inventory listing can be obtained from your local sales representative.

### SAFETY PRECAUTIONS

Please refer to the material safety data sheet (MSDS). Copies of the MSDS can be requested via your local sales representative.

### STABILITY AND STORAGE

Products may absorb moisture and carbon dioxide when left in open containers, which could result in increased viscosity, discolouration, reduction of reactivity, and/or crystallization of the products. These products should be kept tightly sealed in their original containers when not in use, and stored in a cool, dry place.

### DISCLAIMER

All statements, technical information and recommendations contained herein are based on tests Nexstar believes to be reliable, but the accuracy or completeness thereof is not guaranteed. Actual test method procedures may differ from listed standards; major differences are noted.

Nexstar Extrusions Pvt. Ltd.

31 A, Baikampady Industrial Area, Mangalore 575011, Karnataka, INDIA.

Tel +91 80 50 55 0505. Email: info@nexstargroup.com

## Epoxy Resin ER - 1 Technical Data sheet



27% Bio Based

### TYPICAL PROPERTIES

PROPERTY	SPECIFICATION	TEST METHOD
Color (Gardner)	≤ 1	ASTM D1544
Viscosity @ 25°C (cPs)	11,000 - 14,000	ASTM D2196
Epoxy Equivalent Weight (EEW) <sup>1</sup>	182 - 200	ASTM D1652-97
Hydrolysable chlorine (%)	≤ 0.1	ASTM D1726-11

Typical properties are not to be construed as specifications

<sup>1</sup>Based on total product weight

### PACKAGING

Packed in steel barrels of 235 kg net weight, 253 kg gross weight.

### REGULATORY STATUS

Please refer to the material safety data sheet (MSDS). Specific information regarding chemical inventory listing can be obtained from your local sales representative.

### SAFETY PRECAUTIONS

Please refer to the material safety data sheet (MSDS). Copies of the MSDS can be requested via your local sales representative.

### STABILITY AND STORAGE

Products may absorb moisture and carbon dioxide when left in open containers, which could result in increased viscosity, discoloration, reduction of reactivity, and/or crystallisation of the products. These products should be kept tightly sealed in their original containers when not in use, and stored in a cool, dry place.

### DISCLAIMER

All statements, technical information and recommendations contained herein are based on tests Nexstar believes to be reliable, but the accuracy or completeness thereof is not guaranteed. Actual test method procedures may differ from listed standards; major differences are noted.

Nexstar Extrusions Pvt. Ltd.

31 A, Baikampady Industrial Area, Mangalore 575011, Karnataka, INDIA.

Tel +91 80 50 55 0505. Email: info@nexstargroup.com



## Flexible Epoxy Resin ER - 2 Technical Datasheet

**Nexstar ER-2** is a di-functional glycidyl ether epoxy resin that unlike other flexible resins exhibits the reactivity and chemical characteristics of a traditional Bisphenol A type resin. The chain flexibility resulting from the 8 carbons that separate the aromatic groups increases flexibility when mixed with traditional resins without loss of properties.



65% Bio Based

### PROPERTIES

PROPERTY	SPECIFICATION	TEST METHOD
Viscosity @ 25°C (cPs)	10,000 - 35,000	ASTM D2196
Epoxy Equivalent Weight (EEW) <sup>1</sup>	350 - 500	ASTM D1652-97
Hydrolysable chlorine (%)	≤ 2	ASTM D1726-11
Volatile Loss (% weight)	≤ 3	ASTM D2369-98
PROPERTY	SPECIFICATION	TEST METHOD
Appearance	Reddish Brown liquid	Visual
Color (Gardner)	17	ASTM D1544
Density @ 25°C (kg/L) (lbs/gal)	1.10 9.18	ASTM D1475
Flash point	~90°C / 194°F	ASTM D93
Recommended Use Level (% of total resin weight)	≤ 25	-
Shelf Life (Months)	6	-

Typical properties are not to be construed as specifications

<sup>1</sup>Based on total product weight

### APPLICATIONS

While usable in many epoxy applications, Nexstar ER-2 was designed for applications in marine, protective, and industrial coatings that require increased flexibility while still maintaining excellent chemical, water, and abrasion resistance. Nexstar ER-2 can also be used in structural adhesive applications.

### ADVANTAGES

- Adds flexibility while maintaining performance
- Excellent chemical and water resistance
- Good reactivity
- Compatible with most epoxy resins
- Aids in Bis-Phenol F resin and curing agent compatibility
- Based from natural, renewable, non-food raw material feedstock

## **PACKAGING**

Packed in steel barrels of 235 kg net weight, 253 kg gross weight.

## **REGULATORY STATUS**

Please refer to the material safety data sheet (MSDS). Specific information regarding chemical inventory listing can be obtained from your local sales representative.

## **SAFETY PRECAUTIONS**

Please refer to the material safety data sheet (MSDS). Copies of the MSDS can be requested via your local sales representative.

## **STABILITY AND STORAGE**

Products may absorb moisture and carbon dioxide when left in open containers, which could result in increased viscosity, discolouration, reduction of reactivity, and/or crystallisation of the products. These products should be kept tightly sealed in their original containers when not in use, and stored in a cool, dry place.

## **DISCLAIMER**

All statements, technical information and recommendations contained herein are based on tests Nexstar believes to be reliable, but the accuracy or completeness thereof is not guaranteed. Actual test method procedures may differ from listed standards; major differences are noted.

**Nexstar Extrusions Pvt. Ltd.**

31 A, Baikampady Industrial Area, Mangalore 575011, Karnataka, INDIA.

Tel +91 80 50 55 0505. Email: [info@nexstargroup.com](mailto:info@nexstargroup.com)



# Epoxy Curing Agent ECA - 1

## Technical Datasheet

**Nexstar ECA-1** is a low viscosity, solvent and benzyl alcohol free phenalkamine curing agent designed for epoxy coating applications protecting metal and concrete substrates. It has excellent rapid cure properties, even at low temperatures, offers very good chemical resistance, and provides excellent adhesion on wet or otherwise unprepared surfaces and green concrete. Industrial, protective, and floor coatings can benefit from this product's excellent water resistance and corrosion protection.



68.50% Bio Based

### PROPERTIES

PROPERTY	SPECIFICATION	TEST METHOD
Color (Gardner)	≤ 14	ASTM D1544
Viscosity @ 25°C (cPs)	700 - 1,200	ASTM D2196
Amine Value (mg KOH/g)	270 - 310	ASTM D2074
Volatile Loss (% weight)	≤ 3	ASTM D2369-98
PROPERTY	SPECIFICATION	TEST METHOD
Appearance	Yellow liquid	Visual
Theoretical Active Hydrogen Equivalent (AHEW) <sup>1</sup>	133	Calculated
Density @ 25°C (kg/L)	0.99	ASTM D1475
(lbs/gal)	8.26	
Flash point	101°C / 214°F	ASTM D93
Recommended Use Level (phr, EEW 190)	70	-
Shelf Life (Months)	6	-

Typical properties are not to be construed as specifications

<sup>1</sup>Based on total product weight

### APPLICATIONS

Nexstar ECA-1 is usable in high solids or solvent free surface tolerant marine, industrial maintenance, protective, and floor coatings. Good chemical and water resistance make this curing agent especially acceptable for concrete or metal tank linings and pipe coatings. It can be used for coating applications under cold and humid conditions, even over damp and poorly prepared surfaces, and offers excellent film appearance at extreme conditions. This product's fast cure and good hardness make it ideal for applications requiring fast return to service. Its ability to cure over a wide temperature range and non-critical mix ratio can bring coatings broad application latitude.

## ADVANTAGES

- Excellent combination of rapid cure and long pot-life at both ambient and low (<5°C/40°F) temperatures
- Continues to chemically crosslink at very low temperatures(<0°C/32°F)
- Excellent film quality even at low temperatures and high humidity.
- Good adhesion to poorly prepared surfaces and green concrete
- Moisture tolerant during cure
- Excellent early water resistance
- Very good chemical resistance
- Good flexibility
- Compatible with most epoxy resins, solvents and their blends
- Superior corrosion resistance mitigating the need for anti-corrosion pigments
- Non-critical mix ratio
- No induction time required
- Solvent and benzyl alcohol free
- Based from natural, renewable, non-food chain raw material feedstock

## CURE PROPERTIES

	FORMULATION	TEST METHOD
Liquid Epoxy Resin (pbw, EEW 190)	100	
Nexstar ECR-1 (pbw)	70	
Mix viscosity @ 25°C (cPs)	4,300	
Gel time, 50 g @ 25°C (min)	18	NTM-15
Thin film dry times, 8 mils (200 micron)		
@ 25°C (77°F) (hrs hard/through)	2/4	ASTM D5895
@ 5°C (41°F) (hrs hard/through)	7.5/11	ASDM D5895
@ 0°C (32°F) (hrs hard/through)	10/16	ASDM D5895
Film appearance @ 10°C, 92% RH	Clear	Visual

## PACKAGING

Packed in steel barrels of 204 kg net weight, 222 kg gross weight.

## REGULATORY STATUS

Please refer to the material safety data sheet (MSDS). Specific information regarding chemical inventory listing can be obtained from your local sales representative.

## SAFETY PRECAUTIONS

Please refer to the material safety data sheet (MSDS). Copies of the MSDS can be requested via your local sales representative.

## STABILITY AND STORAGE

Products may absorb moisture and carbon dioxide when left in open containers, which could result in increased viscosity, discoloration, reduction of reactivity, and/or crystallisation of the products. These products should be kept tightly sealed in their original containers when not in use, and stored in a cool, dry place.

## DISCLAIMER

All statements, technical information and recommendations contained herein are based on tests Nexstar believes to be reliable, but the accuracy or completeness thereof is not guaranteed. Actual test method procedures may differ from listed standards; major differences are noted.

Nexstar Extrusions Pvt. Ltd.

31 A, Baikampady Industrial Area, Mangalore 575011, Karnataka, INDIA.

Tel +91 80 50 55 0505. Email: info@nexstargroup.com

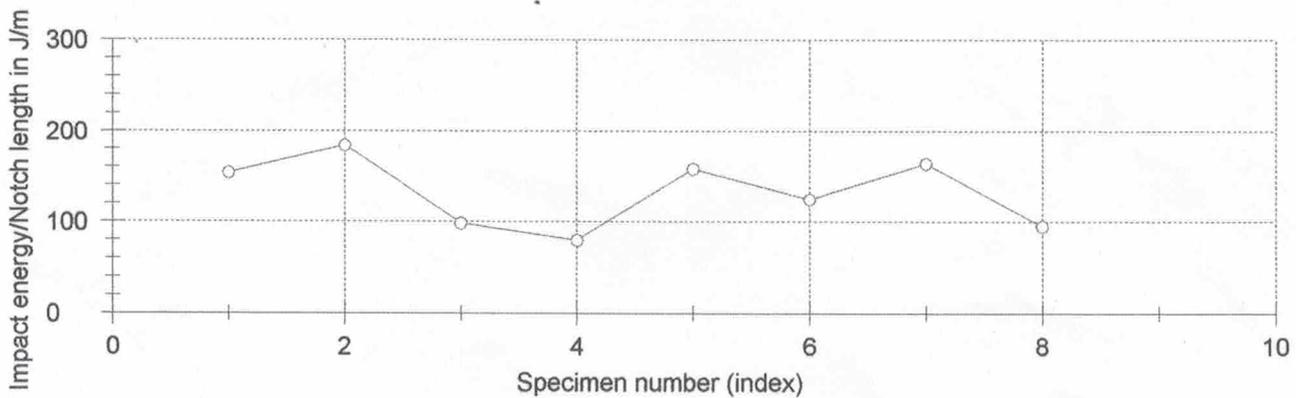
## Scientific Service Group

Job no. : 1940                      Test date : 18-01-2021  
 Tester : THILAK                      Machine data : ZWICK /ROELL HIT 50P  
 Test standard : ASTM D4812  
 Nominal work capacity : 5.5 J  
 Theoretical impact velocity : 3.458 m/s

### Results:

Specimen	W(%) %	Absorbed Energy J	Impact Strength J/m	Width mm	Depth mm	Failure
1	15.7	0.866	153	5.64	13.41	C
2	16.4	0.904	184	4.92	13.69	C
3	12.3	0.678	98	6.90	12.84	C
4	7.6	0.420	79	5.31	13.31	C
5	14.9	0.822	157	5.22	13.81	C
6	15.9	0.872	124	7.02	12.72	C
7	16.8	0.923	163	5.65	13.72	C
8	10.7	0.590	95	6.23	13.71	C

### Series graph:



### Statistics:

1940 n = 8	W(%) %	Absorbed Energy J	Impact Strength J/m	Width mm	Depth mm
x	13.8	0.759	132	5.86	13.4
s	3.3	0.180	38	0.78	0.420
v	23.66	23.66	28.89	13.30	3.13

Tested By



Thilak  
Jr. Lab Officer

Checked By



Pradeep Kumar  
Sr. Lab Officer



**SCIENTIFIC SERVICES GROUP**  
(NABL ACCREDITED LABORATORY)

**Konkan Speciality Polyproducts Pvt Ltd.**

Baikampady, Mangalore-575 011

Plot No 37, KIADB Industrial Area

Telephone: +91 9035014616

Email: [techsupport@konspec.com](mailto:techsupport@konspec.com), [ssg@konspec.com](mailto:ssg@konspec.com)

## TEST REPORT

Sample ID No : 1940  
Tested By : THILAK  
Test Machine data : Shore D Hardness Tester  
Test Standard : ASTM D2240  
Sample Thickness : 5.48 mm  
Test Date : 18 January 2021  
Mass Applied : 5 kg

### SHORE HARDNESS TEST RESULT

Trial No.	1	2	3	4	5	Average
Result	79	80	80	79	79	79.4

### SAMPLE CONDITIONING:

Specimens are conditioned for 48hrs at 23±2°C & 50±10% Relative Humidity before testing.

**RESULT:** Shore Hardness D = **79.4**

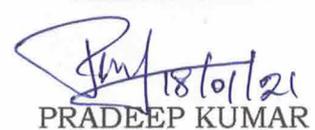
**TESTED BY**

  
18/1/21

THILAK

Jr.Lab Officer

**CHECKED BY**

  
18/01/21  
PRADEEP KUMAR

Sr.Lab Officer

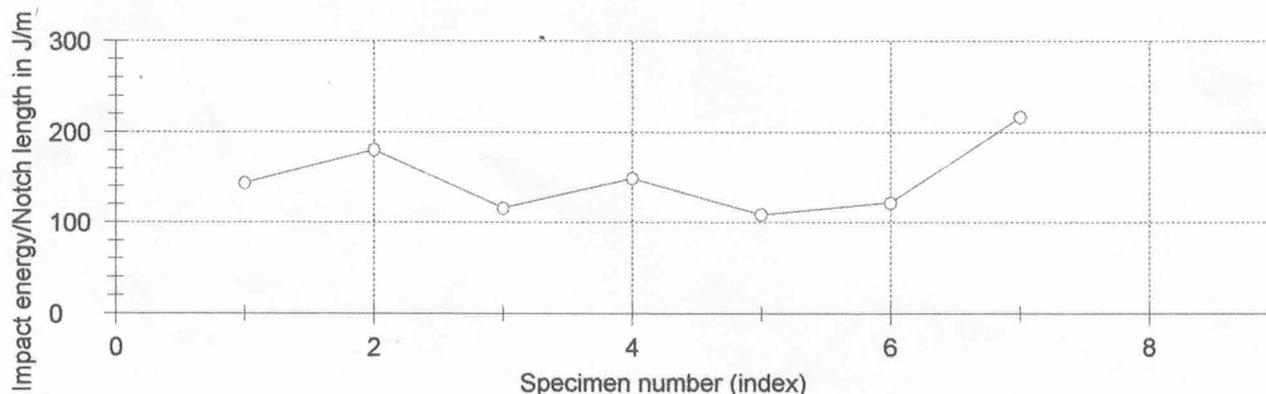
## Scientific Service Group

Job no. : 1941                                      Test date : 18-01-2021  
 Tester : THILAK                                    Machine data : ZWICK /ROELL HIT 50P  
 Test standard : ASTM D4812  
 Nominal work capacity : 5.5 J  
 Theoretical impact velocity : 3.458 m/s

### Results:

Specimen	W(%) %	Absorbed Energy J	Impact Strength J/m	Width mm	Depth mm	Failure
1	18.4	1.012	144	7.03	13.42	C
2	21.5	1.181	181	6.54	13.52	C
3	14.6	0.802	116	6.91	13.43	C
4	17.6	0.967	149	6.49	13.71	C
5	13.1	0.719	108	6.63	13.01	C
6	15.1	0.833	122	6.82	13.48	C
7	24.7	1.360	217	6.26	13.34	C

### Series graph:



### Statistics:

1941 n = 7	W(%) %	Absorbed Energy J	Impact Strength J/m	Width mm	Depth mm
x	17.9	0.982	148	6.67	13.42
s	4.1	0.226	39	0.27	0.213
v	23.04	23.04	26.31	4.01	1.59

**Tested By**



Thilak  
Jr. Lab Officer

**Checked By**



Pradeep Kumar  
Sr. Lab Officer



**SCIENTIFIC SERVICES GROUP**  
(NABL ACCREDITED LABORATORY)

**Konkan Speciality Polyproducts Pvt Ltd.**

Baikampady, Mangalore-575 011

Plot No 37, KIADB Industrial Area

Telephone: +91 9035014616

Email: [techsupport@konspec.com](mailto:techsupport@konspec.com), [ssg@konspec.com](mailto:ssg@konspec.com)

## TEST REPORT

Sample ID No : 1941  
Tested By : THILAK  
Test Machine data : Shore D Hardness Tester  
Test Standard : ASTM D2240  
Sample Thickness : 5.36 mm  
Test Date : 18 January 2021  
Mass Applied : 5 kg

### SHORE HARDNESS TEST RESULT

Trial No.	1	2	3	4	5	Average
Result	69	70	69	70	70	69.6

### SAMPLE CONDITIONING:

Specimens are conditioned for 48hrs at 23±2°C & 50±10% Relative Humidity before testing.

**RESULT:** Shore Hardness D = **69.6**

**TESTED BY**

THILAK  
Jr.Lab Officer

**CHECKED BY**

  
18/01/21  
PRADEEP KUMAR  
Sr.Lab Officer