

# Solutions for Energy-Curable Coatings

Epoxy Acrylates

Urethane Acrylates

Bio-based Acrylates



## About KUKDO

KUKDO Chemical Co.,Ltd., headquartered in Seoul, Korea, is a leading producer of Epoxy resins. It is engaged in hardeners, polyols and specialty organic chemicals. KUKDO was founded in 1972, and has nearly 1,300 employees in Korea, China and India, and had sales of \$1.3 billion in 2022. Further information at [www.kukdo.com](http://www.kukdo.com).

## Products

### Epoxy Resins

Epoxy resin  
Phenoxy resin  
Reactive diluent

### Curing Agents

Polyamide hardener  
Polyamine hardener  
Phenalkamine resin  
Hardening accelerator

### Specialty Resins

Phenol novolac  
BPA novolac  
Ortho cresol novolac  
Bisphenol-F

### Polyurethane

Polyether polyol  
System polyol  
Polyurea  
PUD

### Applied Materials

Composite materials  
[Acrylates \(Epoxy, Urethane\)](#)  
3D Printing materials  
Heavy electric materials

### Advanced Electronic Materials

ACF(Anisotropic conductive film)  
High purity/Functional resins  
(for Display & Semiconductor)  
Polyimide



Iksan production site



Siwha production site



Busan production site



Hwaseong site (KDAM)



Headquarters, Seoul

## Bisphenol-A type

Product	Dilution* (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KDU-1100	-	2	520	5,500(60°C)	H	8,000	2	400,000	High gloss, Good adhesion, Good chemical resistance	☉	☉
KDU-1100TP80	TPGDA 20	2	520	30,000	H	-	-	-	High gloss, Good adhesion, Good chemical resistance	☉	☉
KDU-1100TM80	TMPTA 20	2	520	85,000	H	-	-	-	High gloss, Good adhesion, Good chemical resistance	☉	☉
KDU-1100HD80	HDDA 20	2	520	12,000	H	-	-	-	High gloss, Good adhesion, Good chemical resistance	☉	☉
KDU-1600	-	2	520	3,500(60°C)	H	8,000	2	400,000	BPA-based low viscosity	☉	☉
KDU-1700	-	2	520	2,500(60°C)	H	8,000	2	400,000	BPA-based ultra-low viscosity	☉	☉
KDU-1180	-	2	550	5,000(60°C)	HB	-	-	-	BPA-based methacrylate type	☉	-

\* Dilution with various Monomers at customized dilution % available.

## Modified type / Aliphatic type

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KDU-1450 <sup>1)</sup>	-	2	-	3,500(60°C)	B	-	-	-	Good flexibility, Good adhesion, Good pigment wetting	☉	P
KDU-1460 <sup>1)</sup>	-	2	-	15,000	-	-	-	-	Good flexibility, Good adhesion, Good pigment wetting	☉	P
KDU-1470	-	2	1,400	3,000(60°C)	2B	2,100	10	250,000	Good flow, Flexible, Good pigment wetting	☉	Δ
KDU-1475	-	2	650	45,000	B	7,700	2	450,000	Good flexibility, Good adhesion, Good pigment wetting	☉	Δ
KDU-7710	-	1	270	150	<6B	-	-	-	Excellent adhesion, Good flexibility	☉	Δ
KDU-7720	-	2	600	1,500	HB	-	-	-	Fast cure, Water soluble, Anti-fog	☉	Δ

1) Lab product

## Novolac type

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KDU-3152	TMPTA 40	4	1,770	30,000	H	-	-	-	High gloss, Outstanding heat resistance Outstanding chemical resistance, BPA free	☉	P
KDU-5100	TMPTA 55	7	4,400	50,000	2H	-	-	-	High gloss, Outstanding heat resistance Outstanding chemical resistance, BPA free	☉	P

☉: Registered, Δ: Under registration, P: Polymer



## Bio-based Epoxy Acrylates

Product	BRC(%)	#. Func.	MW	Viscosity (cps @60°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KBA-5000	22	2	520	5,500	H	8,000	2	400,000	High gloss, Good adhesion, Good chemical resistance	⊙	⊙
KBA-6000	68	2	-	2,000	H	9,000	2	500,000	Replacement of BPA epoxy acrylate, Low viscosity, Good abrasion resistance, Good weatherability, High BRC	Δ	Δ



## Bio-based Urethane Acrylates

Product	BRC(%)	#. Func.	MW	Viscosity (cps @60°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KBA-1201 <sup>1)</sup>	67 (Theoretical)	-	4,000	3,700	< 6B	1,400	70	3,900	High gloss, Good adhesion, Good flexibility	-	P
KBA-2201 <sup>1)</sup>	50 (Theoretical)	-	9,000	10,000	B	1,200	2	71,000	High gloss, Good adhesion, Soft & Hard balance	-	P

1) Lab product

# Urethane Acrylates

Global Best Chemical Materials Company beyond No.1 Epoxy Company

## Aliphatic

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KUA-1201	HDDA 12	2	2,890	70,000	2B	1,950	37	22,760	Good exterior durability, Good elasticity	☉	P
KUA-1204	-	2	11,000	3,000(60°C)	<6B	240	80	420	Excellent flexibility, Low yellowing	☉	P
KUA-1205	-	2	5,600	5,700(60°C)	<6B	660	63	1,420	Good elongation, Good flexibility, Low yellowing	☉	P
KUA-1206	-	2	5,800	25,000(60°C)	4B	3,640	49	37,400	Good abrasion resistance, Good adhesion	☉	P
KUA-1208	IBOA 60	2	34,000	30,000	<6B	2,150	250	37,650	High elongation, Excellent adhesion, Good flexibility	Δ	P
KUA-1212	HDDA 5	2	3,400	62,000	<6B	510	28	5,130	Good flexibility, Good leveling	☉	P
KUA-1213	-	2	2,500	7,000	<6B	570	27	2,260	Low viscosity, Good flexibility, Monomer free	-	P
KUA-1214	-	2	2,800	12,500	<6B	980	36	3,960	Low viscosity, Good flexibility, Good abrasion resistance Monomer free	☉	P
KUA-1215	IBOA 15	2	5,610	50,000	5B	870	60	2,520	Good flexibility, Good elongation, Good adhesion, Low yellowing	-	P
KUA-1219	IBOA 20	2	3,830	3,500(60°C)	5B	3,380	110	11,220	Good toughness, Outstanding heat resistance Good adhesion, High elongation	-	P
KUA-1220	-	2	3,320	7,500(60°C)	<6B	3,100	69	11,300	Good abrasion resistance, Good chemical resistance, Good adhesion	☉	P
KUA-1221	EHA 40	2	60,000	27,000(60°C)	<6B	120	850	87	High elongation, High Mw	Δ	P
KUA-1232	TPGDA 20	2	6,800	4,000	<6B	1,700	70	5,700	Good adhesion, Good flexibility	☉	P
KUA-1235	IBOA 40	2	43,000	20,000(60°C)	<6B	1,700	500	2,500	High elongation, Good flexibility, Outstanding adhesion	-	P
KUA-1236	IBOA 40	2	12,500	38,500	<6B	2,960	232	12,450	Excellent adhesion, Good flexibility	-	P
KUA-1238	IBOA 20	2	12,500	5,000(60°C)	<6B	750	160	1,110	Good flexibility, Good elongation	Δ	-
KUA-2220	-	2	4,000	40,000	<6B	470	40	1,500	Good flexibility, Good chemical resistance, Good adhesion	-	P

☉: Registered, Δ: Under registration, P: Polymer

# Urethane Acrylates

Global Best Chemical Materials Company beyond No.1 Epoxy Company

## Aliphatic

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KUA-2301	HDDA 15	3	5,700	42,000	5B	1,610	8	74,000	Good abrasion resistance, Low yellowing	☉	P
KUA-2302	TMPTA 50	3	2,200	2,700(60°C)	H	-	-	-	Excellent abrasion resistance, Good chemical resistance	-	Δ
KUA-2308	TPGDA 18	3	8,500	15,000(60°C)	3B	5,150	5	230,130	High toughness	☉	P
KUA-2311	TPGDA 25	3	1,940	1,800(60°C)	4B	7,600	4	334,300	Outstanding toughness	☉	P
KUA-3601	-	6	1,470	1,700(60°C)	6H	-	-	-	High reactivity, High hardness, Excellent scratch resistance	☉	Δ
KUA-3602	-	6	1,700	1,800	2H	-	-	-	Low viscosity, Good leveling, Excellent scratch resistance	☉	-

## Aromatic Type

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KUA-5201	-	2	3,900	4,000(60°C)	<6B	700	27	3,250	Good flexibility, Good adhesion, Low shrinkage	☉	P
KUA-5202	IBOA 15	2	8,000	36,000	<6B	394	60	884	Good flexibility, Good adhesion, Low shrinkage	☉	P
KUA-6301	TMPTA 30	3	8,600	80,000	B	2,280	3	80,500	Good cure speed, Good toughness, Good scratch resistance	☉	P
KUA-6302	HDDA 25	3	5,630	19,000	3B	2,090	7	121,670	Good abrasion resistance, Good scratch resistance	☉	P
KUA-7601	-	6	1,500	28,000	6H	-	-	-	High hardness, Good chemical resistance, Good scratch resistance	☉	Δ

☉: Registered, Δ: Under registration, P: Polymer

# Specialty Acrylates

Global Best Chemical Materials Company beyond No.1 Epoxy Company

## Acrylic

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KSA-9201	HDDA 60	2	50,000	25,000	5B	-	-	-	Outstanding adhesion, Good flexibility	☉	P

## Tin free

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KUTF-1201	HDDA 12	2	2,890	80,000	2B	3,270	49	42,150	Good exterior durability, Good elasticity	☉	P
KUTF-1204	-	2	11,000	3,000(60°C)	<6B	240	85	410	Excellent flexibility, Low yellowing	☉	P
KUTF-1205	-	2	5,600	5,700(60°C)	<6B	1,320	69	3,200	Good elongation, Good flexibility, Low yellowing	☉	P
KUTF-1206	-	2	5,800	22,000(60°C)	4B	1,390	49	11,360	Good abrasion resistance, Good adhesion	☉	P
KUTF-1236	IBOA 40	2	13,000	42,000	<6B	2,860	260	13,350	Excellent adhesion, Good flexibility	-	P
KUTF-6301	TMPTA 30	3	8,590	80,000	B	3,340	3	165,000	Good cure speed, Good toughness, Good scratch resistance	☉	P

## Dual cure (Thermal + UV)

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KUA-9252	-	2	4,000	20,000	B	3,800	28	112,000	Flexible, Good adhesion	-	P
KUA-9255	-	2	2,000	22,000	H	4,700	7	215,000	Good hardness, Good scratch resistance	-	P

## Silicone type

Product	Dilution (%)	#. Func.	MW	Viscosity (cps @25°C)	Pencil Hardness	Tensile Str.(psi)	Elongation (%)	Modulus (psi)	Key Features	Registration	
										TSCA	REACH
KUA-3907	-	10	9,050	15,000(60°C)	2H	-	-	-	Good stain resistance	-	Δ
KUA-1241	-	2	7,300	23,000	<6B	199	46	588	Excellent slippery, Good flexibility	☉	P

☉: Registered, Δ: Under registration, P: Polymer

## Highly Flexible Coating

### KUA-1221

Appearance	Transparent liquid
Viscosity (cps, 60°C)	27,000
Color (APHA, max)	100
Monomer (%)	EHA 40
Specific gravity	1.006
Refractive index (25°C)	1.460
Molecular weight (GPC)	60,000
Functionality	2
Cured surface	Tack
Pencil hardness※	<6B
Tensile strength (psi)	120
Elongation (%)	850
Young's modulus (psi)	87

※ Thickness : 100~120μm  
Substrate : glass

#### *PRODUCT HIGHLIGHTS*

- High elongation
- High Mw
- Good adhesion

#### *SUGGESTED APPLICATIONS*

- Flexible film coating
- Industrial UV adhesive





## Excellent Elastic Coating

### KUA-1235

Appearance	Transparent liquid
Viscosity (cps, 60°C)	10,000 ~ 40,000
Color (APHA, max)	200
Monomer (%)	IBOA 40
Molecular weight (GPC)	41,000
Functionality	2
Pencil hardness※	< 6B
Tensile strength (psi)	1,700
Elongation (%)	550
Young's modulus (psi)	2,500

※ Thickness : 100~120μm  
Substrate : glass

#### *PRODUCT HIGHLIGHTS*

- Good toughness
- Outstanding heat resistance
- Good adhesion
- Good elongation

#### *SUGGESTED APPLICATIONS*

- VCM sheet coating
- Film coating
- Plastic coating



## Excellent Elastic Coating

### KUA-1236

Appearance	Transparent liquid
Viscosity (cps, 25°C),	40,000
Color (APHA, max)	200
Monomer (%)	IBOA 40
Specific gravity	1.08
Refractive index (25°C)	1.477
Molecular weight (GPC)	12,500
Functionality	2
Pencil hardness※	<6B
Tensile strength (psi)	2,960
Elongation (%)	232
Young's modulus (psi)	12,450

#### *PRODUCT HIGHLIGHTS*

- Good toughness
- Outstanding heat resistance
- Good adhesion
- Good elongation

#### *SUGGESTED APPLICATIONS*

- VCM sheet coating
- Film coating
- Plastic coating



※ Thickness : 100~120μm  
Substrate : glass

## Excellent Durable Coating

### KUA-2311

Appearance	Transparent liquid
Viscosity (cps, 60°C)	1,800
Color (APHA, max)	100
Monomer (%)	TPGDA 25
Specific gravity	1.12
Refractive index (25°C)	1.485
Molecular weight (GPC)	1,940
Functionality	3
Pencil hardness <sup>※</sup>	4B
Tensile strength (psi)	7,600
Elongation (%)	4
Young's modulus (psi)	334,300

※ Thickness : 100~120μm  
Substrate : glass

#### PRODUCT HIGHLIGHTS

- High reactivity
- Outstanding toughness
- Outstanding abrasion resistance
- High tensile strength
- Excellent durability

#### SUGGESTED APPLICATIONS

- Optical cable coating
- Plastic coating
- UV Ink





## Wood floor (Base)

Adhesion

**KUA-1215, KUA-5201, KUA-5202, KUA-6301, KUA-3601**



## Wood floor (Middle)

Hardness,  
Scratch & Chemical resistance

**KDU-1100HD80, KDU-1100TP80, KDU-1100TM80, KUA-6301**



## Wood floor (Top-Aliphatic)

Hardness, Low yellowing,  
Scratch & Chemical resistance

**KUA-1201, KUA-2301, KUA-2305, KUA-3601, KUA-3603**



## Wood floor (Top-Aromatic)

Hardness,  
Scratch & Chemical resistance

**KDU-1100HD80, KDU-1100TP80, KDU-1100TM80, KUA-6301, KUA-6302, KUA-7601**



## Wood (Sealer)

Sand-ability, Adhesion

**KDU-1100HD80, KDU-1100TP80, KDU-1100TM80**



## Furniture (Top)

Hardness,  
Scratch & Chemical resistance

**KDU-1100HD80, KDU-1100TP80, KDU-1100TM80, KUA-6301, KUA-6302, KUA-7601**



## Outdoor

Low yellowing,  
Outdoor durability

**KUA-1201, KUA-2301, KUA-2305**



## Pigmented

Reactivity,  
Pigment wetting

**KDU-1100HD80, KDU-1100TP80, KDU-1100TM80, KSA-1102**



## OPV (Over Print Varnish)

Scratch resistance,  
Good adhesion, Fast cure

**KDU-1100HD80, KDU-1100TP80,  
KDU-1100TM80,  
KUA-6301, KUA-6302, KUA-7601**



## Mobile Case

Abrasion & Scratch resistance,  
Good adhesion, Low yellowing

**KUA-1201, KUA-1208, KUA-1213,  
KUA-1214, KUA-1219,  
KUA-1236, KUA-3601, KUA-3602**



## TPU Film

Chemical resistance,  
Good adhesion, Low yellowing

**KUA-1205, KUA-1208, KUA-1215,  
KUA-1219, KUA-1236, KUA-3601**

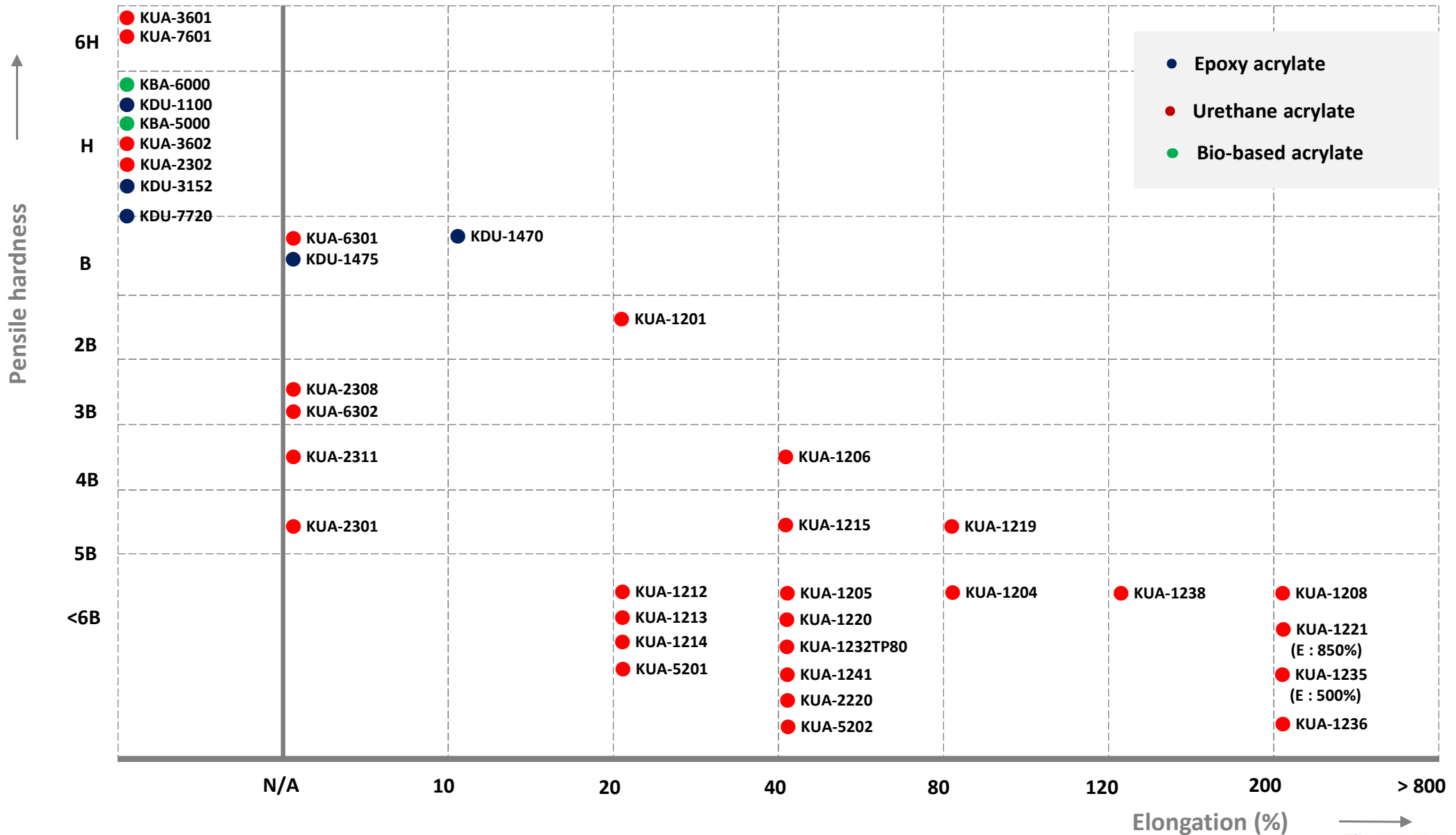


## Nail Stickers

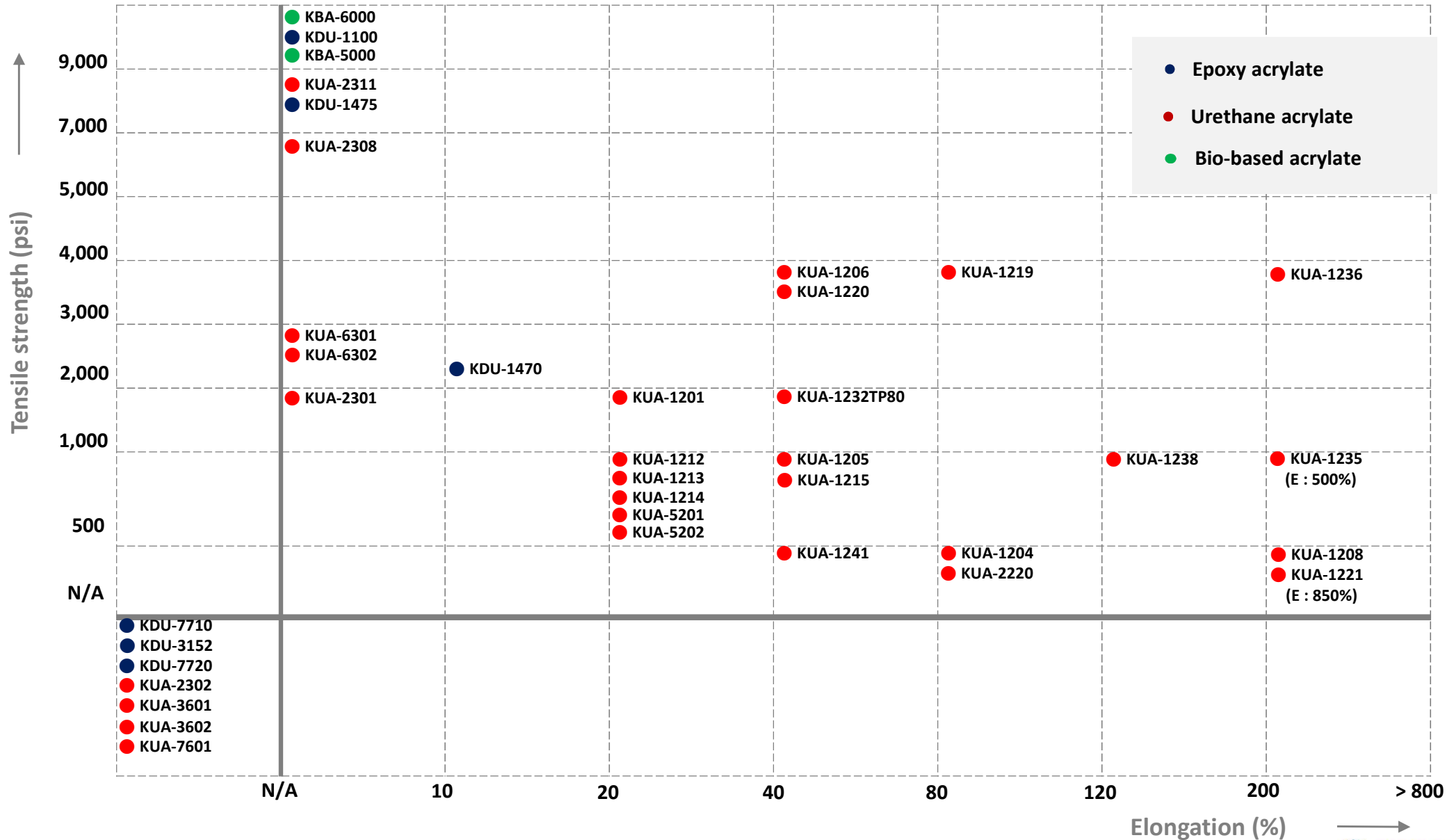
Toughness,  
Good adhesion

**KUA-1205, KUA-1206, KUA-1208,  
KUA-1215, KUA-1219, KUA-1236,  
KUA-2301**

# Hardness vs. Elongation



# Tensile strength vs. Elongation



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