NAN YA EPOXY RESIN

NAN YA PLASTICS CORPORATION

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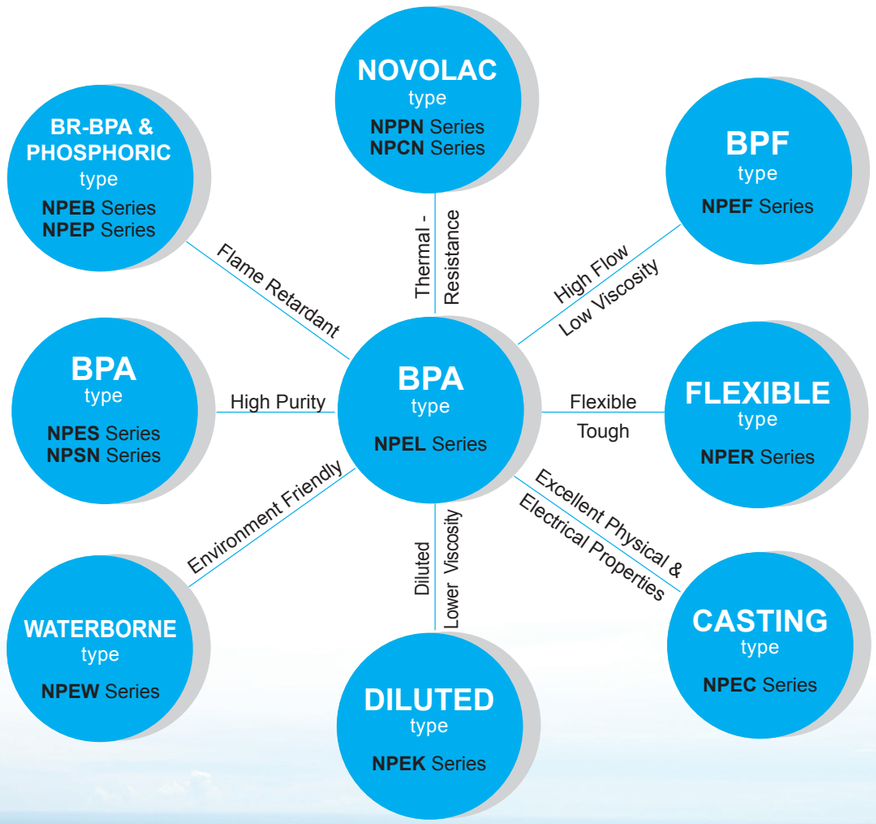
Nan Ya Epoxy Resin Product Series

Nan Ya Epoxy started to manufacture high quality epoxy resins since 1988. Our annual capacity has expanded from 18,000 MT in 1988 to more than 457,000 MT in 2018, including two production bases in Taiwan (Shulin and Mailao) and two in China (Kunshan), to satisfy the growing market demand.

To better service our customers with different applications, Nan Ya Epoxy keeps focus on R&D and technology improvements. By using high-end instruments, our R&D departments in all four-production bases are able to ensure stable product quality and always work with our customers closely for any technical issues they may encounter.

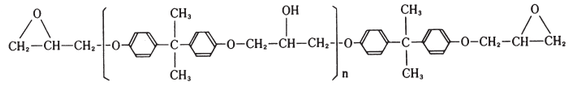
Nan Ya Epoxy also takes advantage of internal sourcing channels within Formosa Plastic Group to ensure quality, sufficient and on-time BPA and ECH supplies.

Nan Ya Epoxy passed ISO-9001 in May 1994, ISO-14001 in 1997 and Sony Green partner Certificate in 2005 and will keep up with other environmental requirements, like REACH in European market, to act as a social responsible global Epoxy Resin manufacturer.



1. Low Molecular Weight Epoxy Resin

1-1. BPA Type

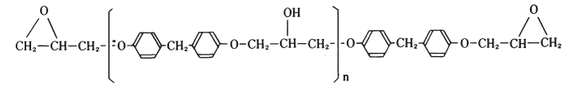


Grade	EEW (g/eq)	Viscosity (cps/25°C)	Color (G)	Comments
NPEL-127	176~184	8000~11000	1.0 max.	Low viscosity
NPEL-127E	176~184	8000~11000	1.0 max.	Low hydrolyzable chlorine
NPEL-127H	182~188	10000~12000	1.0 max.	Low viscosity
NPEL-128	184~190	12000~15000	1.0 max.	Standard
NPEL-128E	184~190	12000~15000	1.0 max.	Low hydrolyzable chlorine
NPEL-128G	184~190	12000~15000	1.0 max.	Total chlorine<1550ppm
NPEL-128R	184~194	12000~16000	1.0 max.	Non-crystallizable
NPEL-128S	205~225	19000~24000	1.0 max.	High viscosity
NPEL-134L	210~250	L~R*	1.0 max.	Semi-solid
NPEL-134	230~270	O~U*	1.0 max.	Semi-solid
NPEL-136	300~330	X~Z2*	1.0 max.	Semi-solid
NPEL-231	184~194	-	1.0 max.	Precatalyzed

* Gardner-Holdt method (70% N.V. in butyl carbitol solution)

Grade	EEW (g/eq)	Viscosity (cps/25°C)	N.V. (%)	Color (G)	Comments
NPSN-134X80	230~270	800~1400	80 ± 1	1.0 max.	Solution of NPEL-134 in Xylene
NPSN-134X85	230~270	2000~5000	85 ± 1	1.0 max.	Solution of NPEL-134 in Xylene
NPSN-134X90	230~270	10000 ~30000	90 ± 1	1.0 max.	Solution of NPEL-134 in Xylene
NPSN-136X80	300~330	3000~7000	80 ± 1	1.0 max.	Solution of NPEL-136 in Xylene

1-2. BPF Type



Grade	EEW (g/eq)	Viscosity (cps/25°C)	Color (G)	Comments
NPEF-164X	185~205	700~1100	1.0 max.	BPA/ BPF/ Diluent blended
NPEF-170	160~180	2000~5000	1.0 max.	Standard
NPEF-175	160~180	2000~5000	1.0 max.	BPA/ BPF blended
NPEF-180	170~190	5000~7000	1.0 max.	BPA/ BPF blended
NPEF-185	170~190	6000~8000	1.0 max.	BPA/ BPF blended
NPEF-187	175~185	7500~9500	1.0 max.	BPA/ BPF blended
NPEF-198	180~186	10000~14000	1.0 max.	BPA/ BPF blended

1-3. Reactive Diluents

Grade	EEW (g/eq)	Hy-Cl (ppm)	Viscosity (cps/25°C)	Color (G)	Comments
NPER-032	305~335	2000 max.	35~80	1.0 max.	Polypropylene glycol Diglycidyl Ether Enhances flexibility, elongation, and impact resistance.
NPEK-041	140~155	2000 max.	5~10	1.0 max.	Butyl Glycidyl Ether
NPEK-048	270~290	1000 max.	5~20	1.0 max.	C12~C14 Aliphatic Glycidyl Ether

1-4. Diluted Type

Grade	EEW (g/eq)	Viscosity (cps/25°C)	Color (G)	Comments
NPEK-114	190~210	600~1200	1.0 max.	NPEL-128 diluted with C12~C14 Aliphatic Glycidyl Ether
NPEK-114L	195~205	550~750	1.0 max.	NPEL-128 diluted with C12~C14 Aliphatic Glycidyl Ether
NPEK-115	175~195	600~1200	1.0 max.	NPEL-128 diluted with Butyl Glycidyl Ether
NPEK-139	180~220	1500~2100	3.0 max.	NPEL-128 diluted with C10 Glycidyl Ester

2. Medium Molecular Weight BPA Type Epoxy Resin

2-1. High Purity Epoxy Resin

Grade	EEW (g/eq)	Solution Viscosity (25℃)*	Melt Viscosity (cps/150℃)**	Softening point (℃)	Color (G)*	Comments
NPES-901	450~500	D~F	-	64~74	1.0 max.	For vinyl ester, CFRP, paints
NPES-901H	580~610	I~L	-	80~85	1.0 max.	For vinyl ester, CFRP, paints
NPES-902	600~650	I~M	-	82~92	1.0 max.	For coatings
NPES-902H	680~710	K~P	2000~4500	90~95	1.0 max.	For coatings
NPES-903K	670~700	K~P	2000~4000	88~95	1.0 max.	For powder coatings
NPES-903	700~750	N~R	3000~5000	90~98	1.0 max.	For powder coatings
NPES-903H	740~780	P~S	3500~6000	92~100	1.0 max.	For powder coatings
NPES-904	780~850	S~W	4500~8000	96~107	1.0 max.	For powder coatings, epoxy ester
NPES-904H	840~900	V~X	6000~9000	100~112	1.0 max.	For powder coatings, epoxy ester
NPES-906L	1040~1120	-	-	102~115	0.3 max.	For pipe coatings

* 40% N.V. in butyl carbitol solution
** Viscosity measured by cone & plate viscometer at 150°C

Grade	EEW (g/eq)	Viscosity (cps/25°C)	N.V. (%)	Color (G)	Comments
NPSN-901K80	450~500	4000~13000	80 ± 1	1.0 max.	Solution of NPES-901 in MEK
NPSN-901S75	450~500	13000~25000	75 ± 1	1.0 max.	Solution of NPES-901 in BCS
NPSN-901X65	450~500	1000~1800	65 ± 1	1.0 max.	Solution of NPES-901 in Xylene
NPSN-901X70	450~500	2500~4500	70 ± 1	1.0 max.	Solution of NPES-901 in Xylene
NPSN-901X75	450~500	8000~15000	75 ± 1	1.0 max.	Solution of NPES-901 in Xylene
NPSN-902X75	600~650	20000~55000	75 ± 1	1.0 max.	Solution of NPES-902 in Xylene

2-2. High Flow Epoxy Resin

Grade	EEW (g/eq)	Solution Viscosity (25℃)*	Melt Viscosity (cps/150℃)**	Softening point (℃)	Color (G)*	Comments
NPES-601	510~570	G~I	-	74~82	1.0 max.	For paints
NPES-602	610~660	-	600~1800	75~86	1.0 max.	For powder coatings
NPES-602L	640~680	-	1200~1600	79~85	1.0 max.	For powder coatings
NPES-602H	660~720	-	1700~2500	85~95	1.0 max.	For powder coatings
NPES-603	720~770	-	1500~3500	85~95	1.0 max.	For powder coatings
NPES-604	800~850	-	2500~6000	90~100	1.0 max.	For powder coatings
NPES-605	900~950	-	4000~8000	95~108	1.0 max.	For powder coatings

* 40% N.V. in butyl carbitol solution
** Viscosity measured by cone & plate viscometer at 150°C

2-3. Master Batch Epoxy Resin

Grade	EEW (g/eq)	Melt Viscosity (cps/150℃)*	Softening point (℃)	Comments
NPES-902P	700~750	1800~2800	85~95	For powder coating, with 2.5% flow agent
NPES-924	720~770	2000~3500	85~97	For powder coating, with 10% flow agent

* Viscosity measured by cone & plate viscometer at 150°C

2-4. Special Modified Epoxy Resin

Grade	EEW (g/eq)	Melt Viscosity (cps/150℃)**	Softening point (℃)	Color (G)*	Comments
NPES-660U	500~560	4000~8000	90~98	2.0 max.	Multifunction resin modified
NPES-662H	750~850	-	110~120	2.0 max.	Multifunction resin modified

* 40% N.V. in butyl carbitol solution
** Viscosity measured by cone & plate viscometer at 150°C

Grade	EEW (g/eq)	Viscosity (cps/25°C)	N.V. (%)	Color (G)	Comments
NPSN-904UK70	850~920	3800~5000	70 ± 1	1.0 max.	Solution in MEK Good thermal and chemical resistance.

3. High Molecular Weight BPA Type Epoxy Resin

3-1. High Purity Epoxy Resin

Grade	EEW (g/eq)	Solution Viscosity (25℃)*	Softening point (℃)	Color (G)*	Comments
NPES-907	1500~1800	X~Z2	120~130	1.0 max.	For can coatings
NPES-909	1800~2400	Z2~Z5	130~150	1.0 max.	For can coatings, coil coatings
NPES-909H	2100~2500	Z3~Z5	135~150	1.0 max.	For can coatings, coil coatings

* 40% N.V in butyl carbitol solution

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Color (G)	Comments
NPSN-907BM50	1500~1800	2000~8000	50 ± 1	1.0 max.	Solution of NPES-907 in BCS/XYL

3-2. High Flow Epoxy Resin

Grade	EEW (g/eq)	Solution Viscosity (25℃)*	Softening point (℃)	Color (G)*	Comments
NPES-607	1650~1900	Y ~ Z1	120~135	1.0 max.	For can coatings

* 40% N.V in butyl carbitol solution

Grade	EEW (g/eq)	Softening point (℃)	Ford #4 cup (sec)*	Comments
NPES-619A	2400~3000	130~150	28~36	For can coating, coil coating
NPES-619C	2400~3000	130~150	33~43	For can coating, coil coating
NPES-619D	2400~3000	135~150	39~46	For can coating, coil coating
NPES-619E	2600~3300	135~150	45~52	For can coating, coil coating
NPES-629	2400~3000	130~150	28~46	For can coating, coil coating
NPES-639	2600~3000	130~150	47~60	For can coating, coil coating Low BPA content (BPA<5ppm)

* 25% N.V. in PMA solution

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Color (G)	Comments
NPSN-608BM50	2000~2500	3000~6500	50 ± 1	1.0 max.	Solution of NPES-608 in BSC/XYL
NPSN-609BM51	2400~3000	4000~12000	51 ± 1	1.0 max.	Solution of NPES-609 in BSC/XYL

4. Taffy Process BPA Type Epoxy Resin

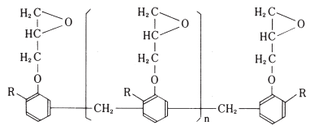
Grade	EEW (g/eq)	Solution Viscosity (25℃)*	Softening point (℃)	Color (G)*	Comments
NPES-301	450~500	D~G	62~72	1.0 max.	For paints
NPES-302	600~700	G~K	82~92	1.0 max.	For powder coatings
NPES-303L	720~780	M~R	85~95	1.0 max.	For powder coatings
NPES-303	800~900	O~S	85~105	1.0 max.	For powder coatings
NPES-303H	850~880	-	92~105	1.0 max.	For powder coatings
NPES-304	900~1000	-	91~102	1.0 max.	For powder coatings

* 40% N.V. in butyl carbitol solution

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Color (G)	Comments
NPSN-301X65	450~500	800~1700	65 ± 1	1.0 max.	Solution of NPES-301 in Xylene
NPSN-301X75	450~500	6000~14000	75 ± 1	1.0 max.	Solution of NPES-301 in Xylene

5. Novolac Type Epoxy Resin

5-1. Phenol Novolac Type



Grade	EEW (g/eq)	Solution Viscosity (25°C)	Color (G)**	Comments
NPPN-631	168~178	1100~1700*	2.0 max.	Low viscosity
NPPN-638	170~190	H~K**	3.0 max.	Standard, good heat resistance
NPPN-638S	170~190	H~J**	3.0 max.	Standard, narrow viscosity range

* Brookfield viscometer method cps/52°C
** 60% N.V. in butyl carbitol solution

Grade	EEW (g/eq)	Viscosity (cps/25°C)	N.V. (%)	Color (G)	Comments
NPPN-631X80	168~178	100~400	80 ± 1	3.0 max.	Solution of NPPN-631 in Xylene
NPPN-638K80	172~185	200~500	80 ± 1	3.0 max.	Solution of NPPN-638 in MEK
NPPN-638X80	172~185	1200~2000	80 ± 1	3.0 max.	Solution of NPPN-638 in Xylene
NPPN-638A85	172~185	350~1350	85 ± 1	3.0 max.	Solution of NPPN-638 in Acetone

5-2. Cresol Novolac Type

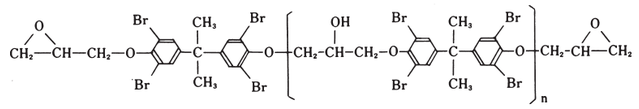
Grade	EEW (g/eq)	Melt Viscosity (cps/150°C)**	Softening point (°C)	Color (G)*	Comments
NPCN-703	195~220	750~2000	78~85	3.0 max.	For EMC, Ink, CFRP
NPCN-704L	200~220	1000~2500	82~90	3.0 max.	For EMC, Ink, CFRP
NPCN-704	200~220	1500~4500	88~95	3.0 max.	For EMC, Ink, CFRP
NPCN-704H	200~220	3000~4500	95~100	3.0 max.	For EMC, Ink, CFRP

* 40% N.V. in butyl carbitol solution
** Viscosity measured by cone & plate viscometer at 150°C

Grade	EEW (g/eq)	Viscosity (cps/25°C)	N.V. (%)	Color (G)	Comments
NPCN-704K80	200~220	6000~15000	80 ± 1	5.0 max.	Solution of NPCN-704 in MEK

6. Brominated Type Epoxy Resin

6-1. High Brominated Type



Grade	EEW (g/eq)	Softening point (°C)	Br content (%)	Comments
NPEB-340	355~370	46~64	46~50	Low Softening point
NPEB-400	380~410	64~74	46~50	Standard

Grade	EEW (g/eq)	Viscosity (cps/25°C)	N.V. (%)	Br content (%)	Comments
NPEB-400A70	380~410	5~25	70 ± 1	46~50	Solution of NPEB-400 in Acetone

6-2. Low Brominated Solvent Type

Grade	EEW (g/eq)	Viscosity (cps/25°C)	N.V. (%)	Br content (%)	Comments
NPEB-450A80	410~440	800~1800	80 ± 1	18~21	Standard brominated epoxy resin in Acetone, suitable for CCL.
NPEB-454A80	425~455	1000~2600	80 ± 1	18~21	Modified brominated epoxy resin in Acetone, suitable for UV-block property
NPEB-454HA80	425~455	1000~2600	80 ± 1	18~21	Modified brominated epoxy resin in Acetone, suitable for UV-block property
NPEB-485A80	385~405	800~2000	80 ± 1	18~21	Modified brominated epoxy resin in Acetone, suitable for Tg 150°C, UV-block CCL application.
NPEB-487A80	355~375	1000~2500	80 ± 1	14~17	Modified brominated epoxy resin in Acetone, suitable for Tg 170°C, UV-block CCL application.
NPEB-475K70	295~335	100~300	70 ± 1	14~16	Design for Novolac curing system. It provide higher Tg (150°C), and good thermal, moisture resistance.
NPEB-459A75	350~370	300~1200	75 ± 1	16.5~17.5	Brominated isocyanate modified type epoxy resin, produce tough matrix with high Tg.

7. Halogen Free Flame Retardant Resin

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Comments
NPEP-200LA70	330~370	400~1400	70 ± 1	Phosphorous cresol novolac epoxy, solution of NPEP-200L in Acetone, P cont. = 2.5%
NPEP-204A70	430~470	2000~4000	70 ± 1	Phosphorous cresol novolac epoxy, solution of NPEP-204 in Acetone, P cont. = 4%
NPEP-210A70	310~330	100~450	70 ± 1	Phosphorous phenol novolac epoxy, solution of NPEP-210 in Acetone, P cont. = 3.3%

Grade	EEW (g/eq)	Softening point (℃)	Comments
NPEP-210	310~330	68~78	Phosphorous Phenol Novolac Epoxy, P cont. = 3.3%

Grade	Hy-Cl (ppm)	Viscosity (cps/25℃)	N.V. (%)	Comments
NPEP-208JM60	0~250	1000~3000	60 ± 1	P cont. = 8.2%, N cont.=4%, 60% solid in PM/TOL

8. Flexible Type Epoxy Resin

8-1. Polyurethane Modify Type

Grade	EEW (g/eq)	Viscosity (cps/25℃)	Color (G)	Comments
NPER-133M	195~240	40000~60000	1.0 max.	Standard
NPER-133L	195~240	10000~16000	1.0 max.	Diluted with C12~C14 Aliphatic Glycidyl Ether

8-2. Dimer Acid Modify Type

Grade	EEW (g/eq)	Color (G)	Acid value (mg KOH/g)	Comments
NPER- 171	315~345	6.0 max.	0.3 max.	Dimer acid modified BPA epoxy, semi-solid
NPER- 172	600~700	6.0 max.	0.3 max.	Dimer acid modified BPA epoxy, semi-solid

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Color (G)	Comments
NPER-174X90	250~265	2000~4000	90 ± 1	4.0 max.	Solution of NPER-174 in Xylene

9. High Performance Type Resin

9-1. High Frequency / High Speed

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N. V. (%)	Comments
NPPN-260A80	190~210	20~120	80 ± 1	Copolymer novolac epoxy, 80% solid in Acetone
NPPN-272HK75	260~285	200~800	75 ± 1	Dicyclopentadiene-phenol epoxy resin, 75% solid in MEK

Grade	EEW (g/eq)	Hy-Cl (ppm)	Softening point (℃)	Comments
NPPN-272H	260~285	300 max.	78~88	Dicyclopentadiene-phenol epoxy resin

9-2. High Heat Resistance

Grade	Mw (g/mol)	Viscosity (cps/25℃)	N. V. (%)	Comments
NPEU-237A65	1200~1700	20~150	80 ± 1	MDA type Benzoxazine resin High solubility, easy handling and better dispersion in varnish.

9-3. Toughness Modified

Grade	EEW (g/eq)	Softening point (℃)	Color (G)	Comments
NPEU-152	320~360	77~83	2.0 max.	Isocyanate modified type epoxy resin, produce tough matrix with high Tg.

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Color (G)	Comments
NPEU-153K75	280~305	500~2500	75 ± 1	8 ± 1	Isocyanate modified type epoxy resin, produce tough matrix with high Tg.

9-4. High Tg / Low CTE

9-4-1. Tetra-Functional Novolac Type

Grade	EEW (g/eq)	Softening point (℃)	Comments
NPPN- 431	200~240	82~92	Glyoxal-phenol novolac epoxy resin Excellent heat resistance and UV block, for CCL, CFRP

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Color (G)	Comments
NPPN431A70	200~240	100~300	70 ± 1	9~13	Solution of NPPN-431 in Acetone

9-4-2. Bisphenol A Novolac Type

Grade	EEW (g/eq)	Softening point (℃)	Color (G)	Comments
NPPN-438	190~210	60~68	2.0 max.	For Ink, CFRP, CCL

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Color (G)	Comments
NPPN-438A70	185~210	30~130	70 ± 1	5.0 max.	Solution of NPPN-438 in Acetone
NPPN-438A80	185~210	400~2000	80 ± 1	5.0 max.	Solution of NPPN-438 in Acetone
NPPN-438K80	185~210	1000~5000	80 ± 1	5.0 max.	Solution of NPPN-438 in MEK

9-4-3. Tri-Functional Novolac Type

Grade	EEW (g/eq)	Softening point (℃)	Color (G)	Comments
NPPN-442	155~175	45~55	12.0 max.	Phenol-Parahydroxybenzaldehyde epoxy. Excellent heat resistance, high Tg.

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Comments
NPPN-442K80	155~175	350~1000	80 ± 1	Solution of NPPN-442 in MEK

10. Waterborne Type Epoxy Resin

10-1. Waterborne Epoxy Resin

Grade	EEW (g/eq)	Viscosity (cps/25℃)	N.V. (%)	Volatile	Comments
NPEW-257D	205~225	3000~7000	100	-	Pure resin and water-emulsifiable. Good chemical resistant and hardness. Low viscosity and Zero VOC. For use in floor paint, concrete coating.
NPEW-281W53	520~580	3000~10000	53 ± 2	water*	Quick-Drying. Better toughness and adhesion. For use in industrial anti-corrosion coating, primer on plastic substrate.
NPEW-292DW53	520~580	500~3000	53 ± 2	water*	Quick-Drying. Good toughness and impact resistant. Excellent salt spray resistant and waterproof. For use in industrial anti-corrosion coating, container paint.
NPEW-274W20	-	11”~14”**	18 ± 1	water*	For sizing agent of fiberglass product.
NPEW-276W25	-	11”~15”**	23 ± 1	water*	For sizing agent of fiberglass product. More flexibility.

* Water & hydrophilic alcohol
** #4 Ford cup at 25°C

10-2. Waterborne Hardener

Grade	AHEW (g/eq)**	Viscosity (cps/25℃)	N.V. (%)	Volatile	Comments
NPED-512WP40	124	5000~15000	40 ± 2	water*	Polyamide adduct curing agent. Quick-Drying. Good water compatibility. Better adhesion and toughness.
NPED-522P68	204	1000~4000	68 ± 2	PM	Polyamine adduct curing agent. Low viscosity. Zinc powder can added to NPED-522P68 in advance.
NPED-525W75	86	6000~13000	75 ±2	water	Polyamine adduct curing agent. Quick-Drying. Solvent free. High solid content with low viscosity. Low AHEW, lower hardener dosage.
NPED-527W53	230	500~6500	53 ±2	water	Non-ionic aqueous dispersion of a modified polyamine adduct curing agent. Very fast dry. Solvent free. Good corrosion resistance.

* Water & hydrophilic alcohol
** The value is calculated, which based on the 100% solid resin

11. Novolac Resin

Grade	Softening point (℃)	Color (G)	Comments
TPN1	120~150	9~11	Glyoxal-phenol novolac
TPN2	120~150	10~13	Glyoxal-phenol novolac

Grade	OH equivalent (g/eq)	Softening point (℃)*	N.V. (%)	Comments
NPEH-710HA65	95~105	95~105	65 ± 1	Phenol Novolac, 65% solid in Acetone
NPEH-710SA65	95~105	115~125	65 ± 1	Phenol Novolac, 65% solid in Acetone

* The value base on the 100% solid resin

12. Insulation Epoxy System

Grade	EEW (g/eq)	Softening point (℃)	Color (G)	Comments
NPEC-195	370~420	50~60	1.0 max.	Electronic castings NPEC-195:NPEC-195H=100:30

Grade	Viscosity (cps/25℃)	Color	Comments
NPEC-270	11000~15000	1.0 max.	MTR(molding resin transformers system) NPEC-270A: NPEC-270B: NPEC-270C=100:80:6

Nan Ya Epoxy Resin
Product Information

IOS APP

Android APP

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