



RESINS FOR WOOD COATINGS



EAGLE CHEMICALS™
RENEWS YOUR YOUTH LIKE THE EAGLE

RESINS FOR WOOD COATINGS

EAGLE CHEMICALS is one of the leading producer of resins in Africa and Middle-East. The state-of-the-art wood coatings' center underpins **EAGLE CHEMICALS** as the superior supplier of a comprehensive range of high-performance resins for wood coatings finishes.

Eagle's strong understanding of binders technologies allows our wood coatings resins to meet a wide range of market demands.

1-RESINS FOR AIR DRYING SYSTEM

LONG OIL ALKYD RESINS

- DIY
- Cost-effective alkyd resins
- Gloss or matt varnish for public and indoor wood furniture

URETHENATED OIL & ALKYD RESINS

- DIY
- Outdoor garden furniture
- Interior parquet floor and indoor wood furniture with excellent hardness and abrasion resistance

2-RESINS FOR NITROCELLULOSE SYSTEM

- Fast drying system with excellent quality in combination with nitrocellulose resin
- NC sanding sealer and NC varnish for interior house and office furniture

3-RESINS FOR 2K-PU SYSTEM

2K PU system achieves higher performance, excellent chemical, abrasion and alcohol resistance

ALKYD RESINS FOR 2K PU

- Short alkyd resins used for formulation of 2K PU sanding sealer and 2K PU varnish for high quality excellent durability 2K PU system finish
- Interior house furniture, office furniture and parquet floor gloss and matt finishes

N.B.: For high gloss finishes you can use unsaturated polyester sealers as a primer coat

HYDROXY ACRYLIC RESINS FOR 2K PU SYSTEM

- High quality, excellent durability, high chemical and solvent resistance
- Higher blocking resistance with excellent flexibility
- Varnish with hard thin layer to show the wood grains

4-RESINS FOR UNSATURATED POLYESTER SYSTEM

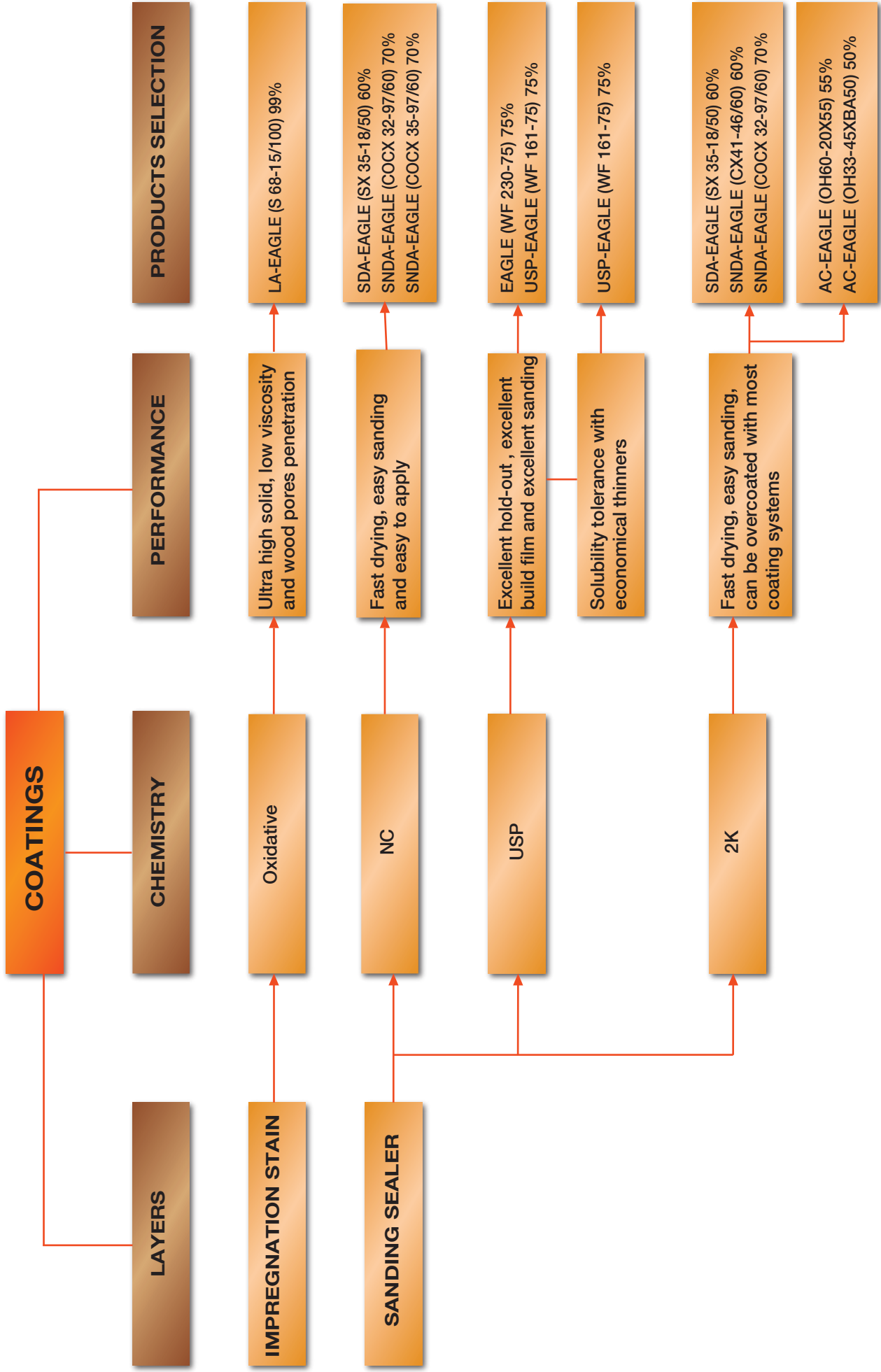
- Excellent filling power and durability
- Can be cured even at high film thickness
- Offers a finish coat with mirror effect (dry film thickness equal the wet film thickness)

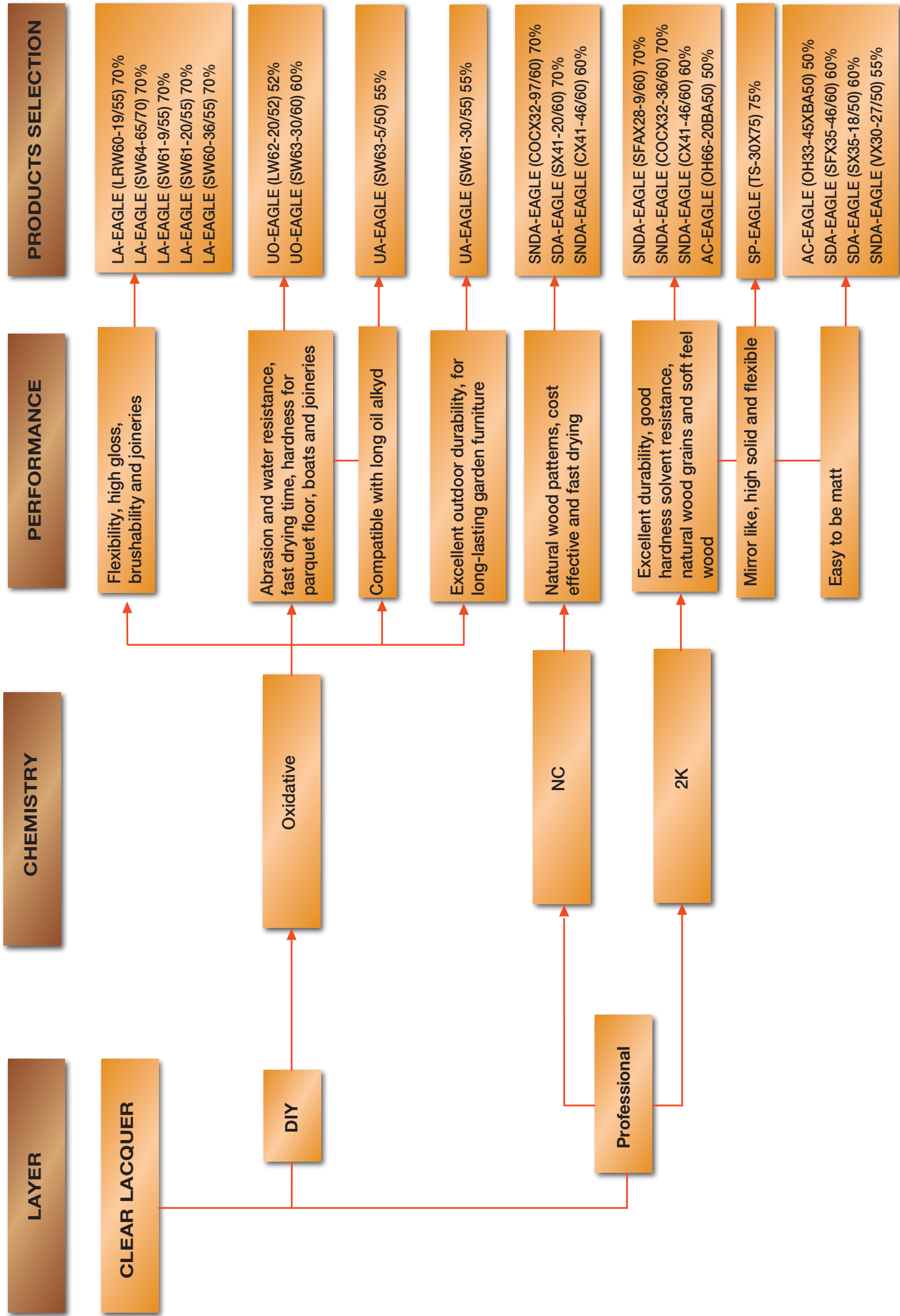
5-RESINS FOR ACID CURING SYSTEM

- Hard, durable, clear finishes designed for professional application of wood flooring
- High scratch with solvent and heat resistance



PRODUCT SELECTION GUIDE





RESINS FOR AIR DRYING VARNISH

1. RESINS FOR AIR DRYING VARNISH

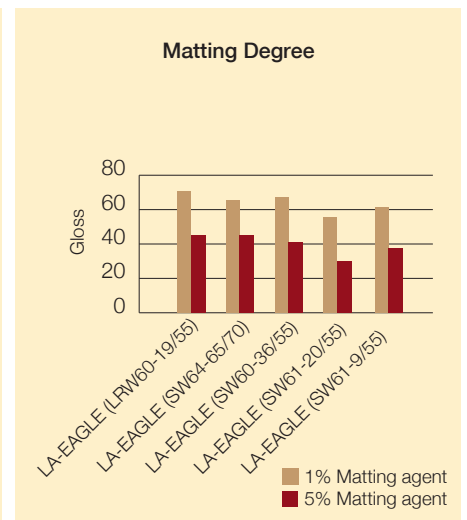
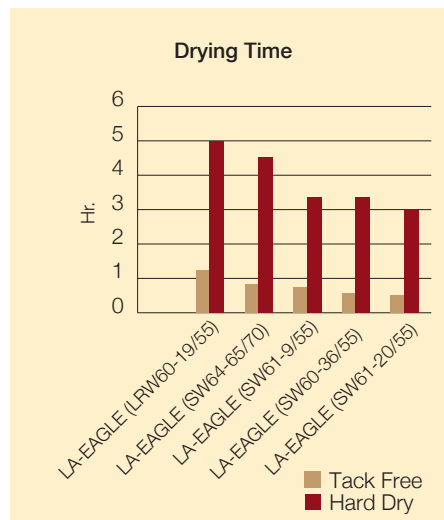
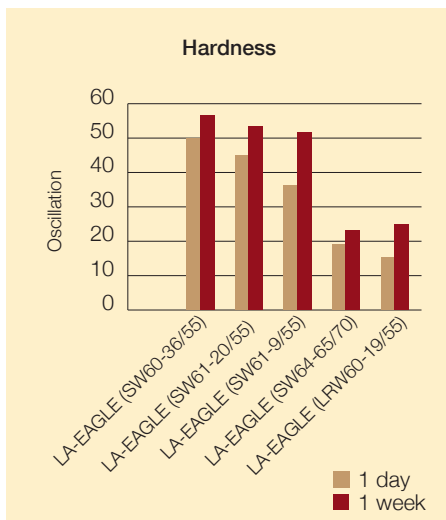
1.1 LONG OIL ALKYD RESIN

Economic, good flexibility, excellent gloss and reasonable hardness

LONG OIL ALKYD	S.C.	Vis. cP @25°C	A.V.	Color (Gardner)	Main feature
LA-EAGLE (SW61-9/55)	70%	900 @55%	12 Max	5 Max	Low viscosity
LA-EAGLE (SW61-20/55)	70%	2000 @55%	8 Max	5 Max	Faster drying
LA-EAGLE (SW60-36/55)	70%	3600 @55%	8 Max	5 Max	High viscosity
LA-EAGLE (LRW60-19/55)	70%	1900 @55%	12 Max	5 Max	Commercial grade
LA-EAGLE (SW64-65/70)	70%	6500 @70%	10 Max	5 Max	Lowest viscosity

GUIDE FORMULATION Gloss varnish based on long oil alkyd

Raw Materials	Kg	Remarks
LA-EAGLE (SW61-20/55) 70%	100.0	Long oil alkyd resin - EAGLE CHEMICALS
Co (10%)	0.42	
Ca (10%)	1.45	
Zr (12%)	1.75	
Exkin 2	0.40	Anti Skinning agent
W.S	45.98	
TOTAL	150.0	



RESINS FOR AIR DRYING VARNISH

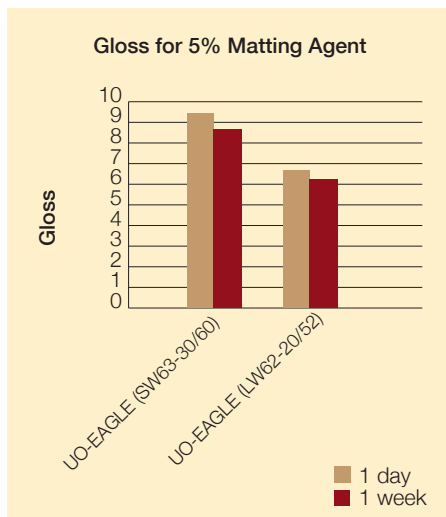
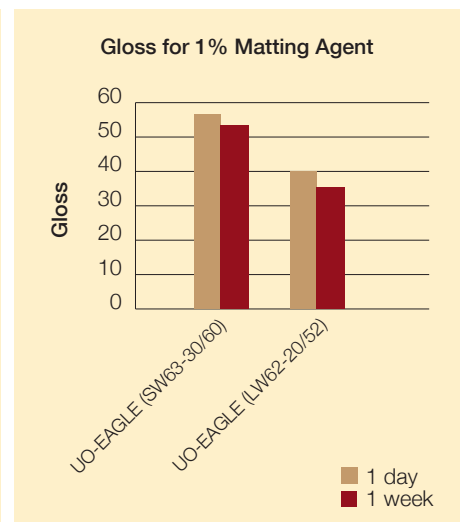
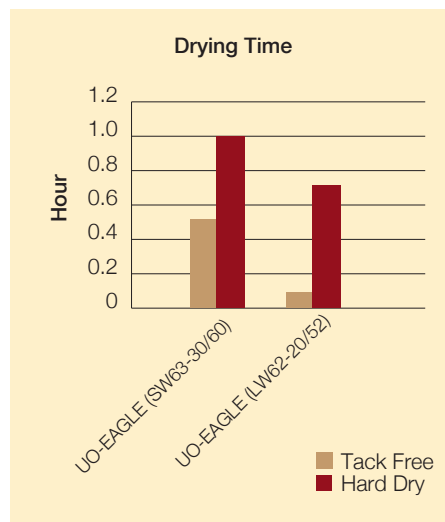
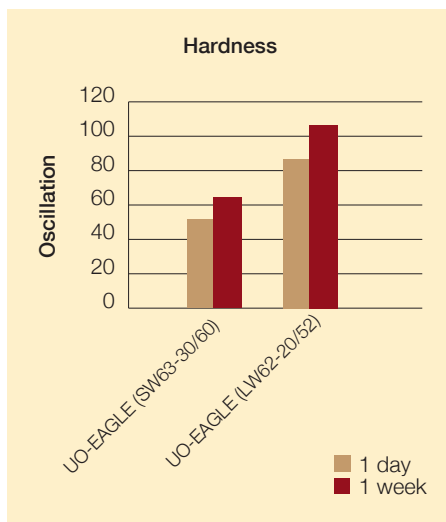
1.2 URETHENATED OIL RESINS

Excellent hardness, very fast drying time and abrasion resistance

URETHENATED OIL	Oil Type	N.V.	A.V.	Vis. cP @25 °C	Color (Gardner)	Main feature
UO-EAGLE (SW 63-30/60)	Soya	60%	2 Max	3000 @60%	5 Max	Standard grade
UO-EAGLE (LW 62-20/52)	Linseed	52%	2 Max	2000 @52%	6 Max	Hardness

GUIDE FORMULATION Gloss Varnish Based On Urethenated Oil

Raw Materials	Gloss	Matt	Remarks
UO-EAGLE (SW63-30/60) 60%	127.50	127.00	Urethenated oil resin - EAGLE CHEMICALS
W.S	21.30	20.00	
BYK-320	0.00	0.30	Leveling agent
OK 412	0.00	1.50	Matting agent
Mordry 410	0.36	0.36	Highly efficient replacement for cobalt drier
Ca 10%	0.34	0.34	
ExKin2	0.50	0.50	Anti Skinning agent
TOTAL	150.00	150.00	



RESINS FOR AIR DRYING VARNISH

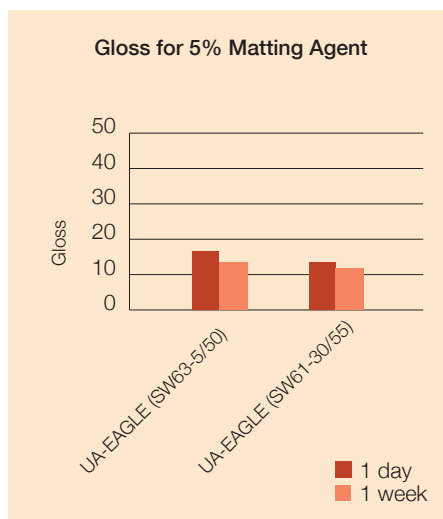
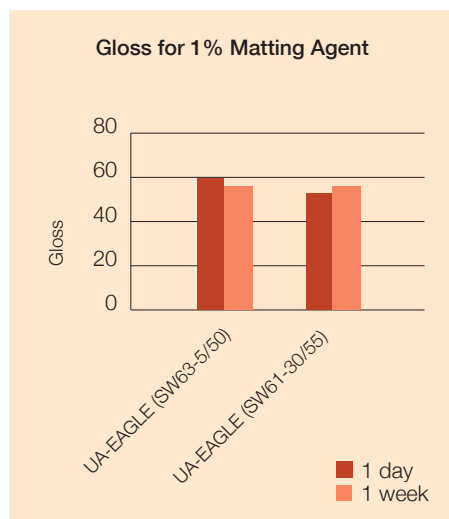
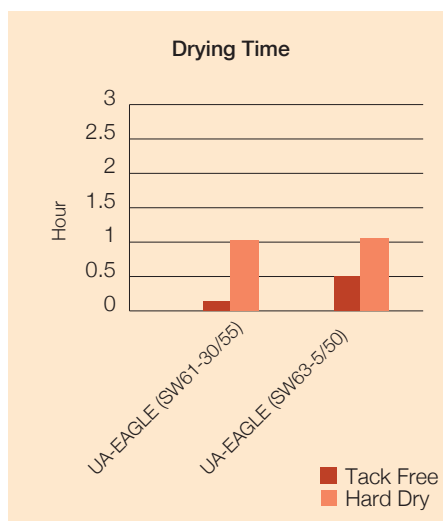
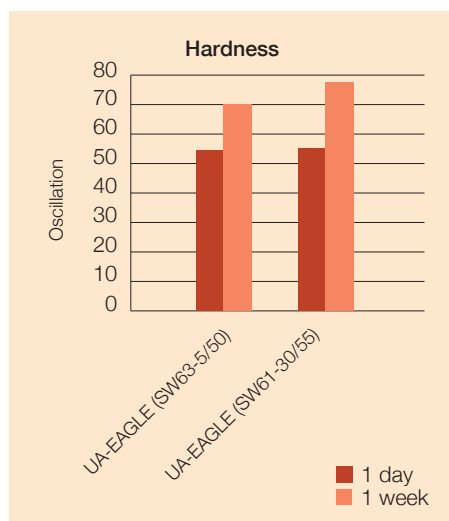
1.3 URETHENATED ALKYD RESINS

Durable film and excellent weathering resistance especially aliphatic based type

URETHENATED ALKYD	Isocyanate	N.V.	A.V.	Vis. cP @25 °C	Color (Gardner)	Main feature
UA-EAGLE (SW61-30/55)	Aliphatic	55%	5 Max	3000 @55%	5 Max	Weathering
UA-EAGLE (SW63-5/50)	Aromatic	55%	2 Max	500 @50%	5 Max	Hardness

GUIDE FORMULATION Clear Varnish Based On Urethenated Alkyd

Raw Materials	Gloss	Matt	Remarks
UA-EAGLE (SW63-5/50) 55%	139.0	137.0	Urethenated alkyd resin - EAGLE CHEMICALS
W.S	9.8	10.0	Solvent
BYK-320	0.0	0.30	Leveling agent
OK 412	0.0	1.50	Matting agent
Mordry 410	0.36	0.36	Highly efficient replacement for cobalt drier
Ca 10%	0.34	0.34	
ExKin2	0.50	0.50	Anti Skinning Additive
TOTAL	150.0	150.0	



RESINS FOR AIR DRYING VARNISH

Area of Applications of **UA-EAGLE (SW61-30/55) 55%**



RESINS FOR UNSATURATED POLYESTER SANDING SEALER

2. RESINS FOR USP SANDING SEALERS

High build film with excellent filling properties

Unsaturated Polyester	N.V.	Gel time	Cure time	Vis. cP @25 °C	Color	Main feature
USP-EAGLE (WF 230-75)	75 ± 2	5 - 8 min	10 - 15 min	Approx. 2300	3 Max	Standard grade
USP-EAGLE (WF 161-75)	75 ± 2	8 - 12 min	15 - 22 min	Approx. 1500	5 Max	Excellent Miscibility

GUIDE FORMULATION USP Sanding sealer

Raw Materials	Kg	Remarks
USP-EAGLE (WF230-75)	200	USP resin - EAGLE CHEMICALS
Aerosil 200	5.0	Thickening agent
Delta 2211 (50% in BA)	1.5	Flow and leveling
BYK 555	1.0	Air release
Zinc stearate	15.0	Sanding agent
USP-EAGLE (WF230-75)	210	USP resin - EAGLE CHEMICALS
Ethyl acetate	21.5	
Styrene	45.0	
BYK 555	1.0	
TOTAL	500.0	

1- Hardness: After 2% cobalt 1% and 2% MEKP 50%
Drying on glass panels (60 µm wet) at 25°C (ASTM D4366)

Konig pendulum hardness (Time after application)	2 Hrs	1 day	3 days
USP-EAGLE (WF 230-75)	55	78	83
USP-EAGLE (WF 161-75)	53	86	91

2- Sandability overnight after 2% cobalt 1% and 2% MEKP 50%

USP-EAGLE (WF 230-75)	Excellent
USP-EAGLE (WF 161-75)	Excellent



3. RESINS FOR NITROCELLULOSE SYSTEM (NC)

Fast drying sanding time and easy to apply

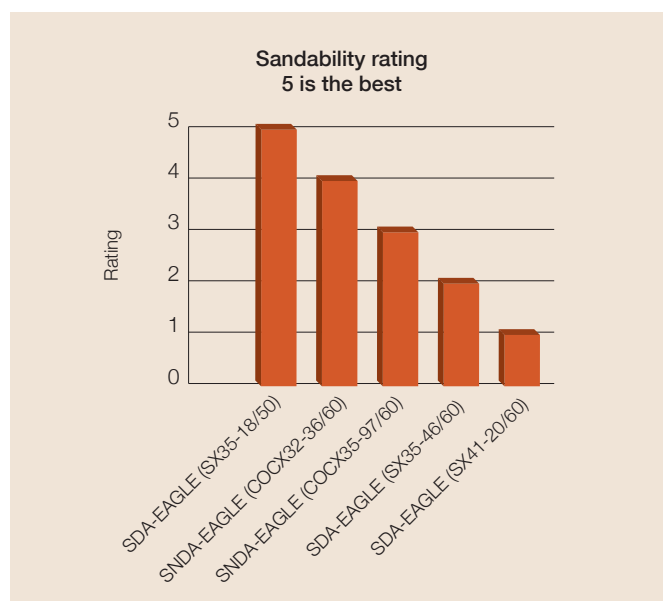
3.1 SHORT ALKYD RESIN

3.1.1 NC Sanding Sealer

GUIDE FORMULATION NC Sanding Sealer

Raw Materials	Kg	Remarks
SNDA-EAGLE (COCX35 -97/60) 70%	130.0	Short alkyd resin - EAGLE CHEMICALS
NC (20%)	250.0	Nitrocellulose solution
Zinc stearate	20.0	Sanding agent
MEK	30.0	
Acetone	30.0	
Toluene	40.0	
TOTAL	500.0	

You can use Maleic resin to improve hardness & sandability



RESINS FOR NITROCELLULOSE SYSTEM (NC)

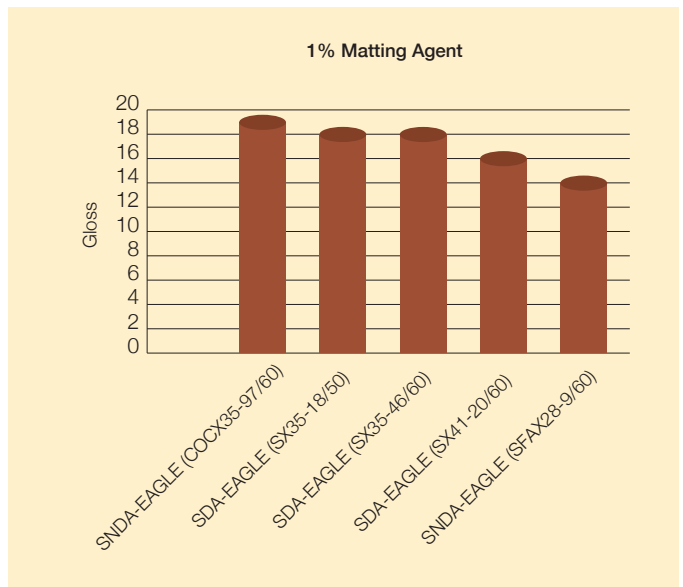
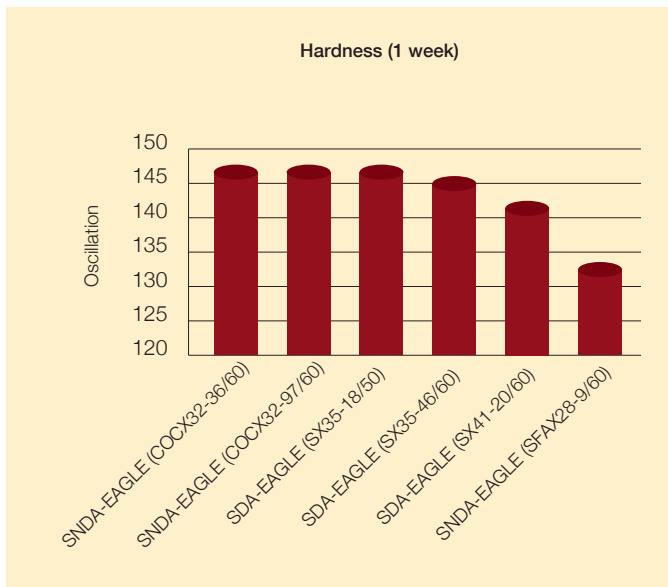
3.1.2 NC Clear Lacquer

High mechanical strength, hardness and transparency with very fast drying time

GUIDE FORMULATION NC Clear Lacquer

Raw Materials	Gloss	Matt	Remarks
SNDA-EAGLE (COCX32-97/60) 70%	130.0	130.0	Short alkyd resin - EAGLE CHEMICALS
NC (20%)	250.0	250.0	Nitrocellulose solution ¾ sec
Xylene	49.5	51.9	
Butyl acetate	70.0	64.0	
BYK-331	0.50	0.50	Leveling agent
BYK-320	0.00	0.60	Leveling agent
OK 412	0.00	3.00	Matting agent
TOTAL	500.0	500.0	

You can add ketonic resin to improve hardness & gloss



RESINS FOR 2K POLYURETHANE SYSTEM

4. RESINS FOR 2K POLYURETHANE SYSTEM

4.1 SHORT ALKYD RESINS

SHORT DRYING ALKYD	N.V.	OH%	Vis. cP @25 °C	Color (Gardner)	Main feature
SDA-EAGLE (SFX35-46/60)	60%	1.5 %	4600 @60%	6 Max	Excellent for matt
SDA-EAGLE (SX35-18/50)	60%	3.0 %	1800 @50%	6 Max	Fast drying /hardness
SDA-EAGLE (SX35-46/60)	60%	3.0 %	4600 @60%	6 Max	Toughness
SDA-EAGLE (SX41-20/60)	60/70%	4.0 %	2000 @60%	5 Max	Flexibility
COCONUT SND ALKYD	N.V.	OH%	Vis. cP @25 °C	Color (Gardner)	Main feature
SNDA-EAGLE (COCX32-36/60)	60/70%	3.9%	3600 @60%	3 Max	Low viscosity
SNDA-EAGLE (COCX32-97/60)	60/70%	3.9%	9700 @60%	3 Max	High Viscosity
SNDA-EAGLE (COCX35-97/60)	60/70%	4.0%	9700 @60%	8 Max	Economical grade
SPECIAL FA/OIL SND ALKYD	N.V.	OH%	Vis. cP @25 °C	Color (Gardner)	Main feature
SNDA-EAGLE (SFAX28-9/60)	70%	4.8	900 @60%	3 Max	Light color
SNDA-EAGLE (CX41-46/60)	60%	4.0	4600 @60%	6 Max	High build/penetration
SNDA-EAGLE (VX30-27/50)	55%	2.8	2700 @50%	5 Max	NC/2K application

4.1.1 2K PU Sanding Sealer

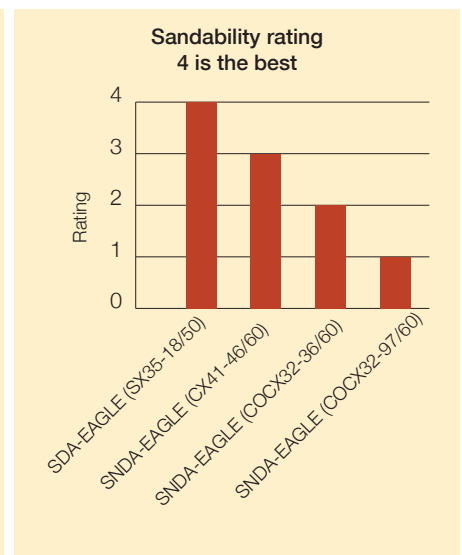
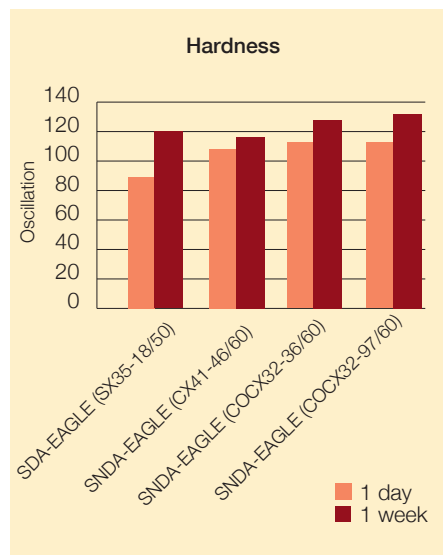
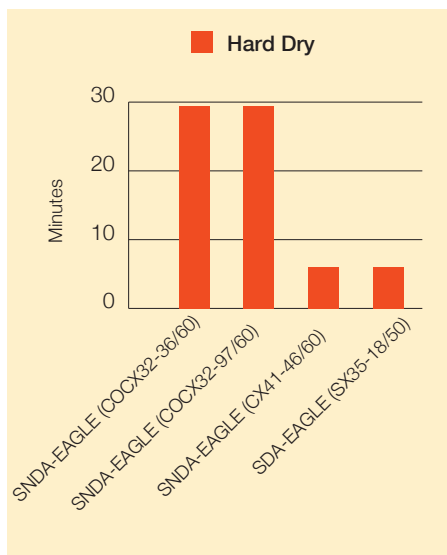
GUIDE FORMULATION 2K PU Sanding Sealer

1st Pack

Raw Materials	Kg	Remarks
SDA-EAGLE (SX35-18/50) 60%	350.0	Short drying alkyd resin - EAGLE CHEMICALS
Butyl acetate	25.00	
Xylene	54.50	
Byk 331	0.50	Leveling agent
Zinc sterate	20.0	Sanding agent
MEK	50.0	
TOTAL	500.0	

2nd Pack

Raw Materials	Kg	Remarks
Desmodur L75 BA/X	116.0	Aromatic polyisocyanates
Butyl acetate	100.0	
Xylene	34.0	
TOTAL	250.0	
TOTAL ALL	750.0	



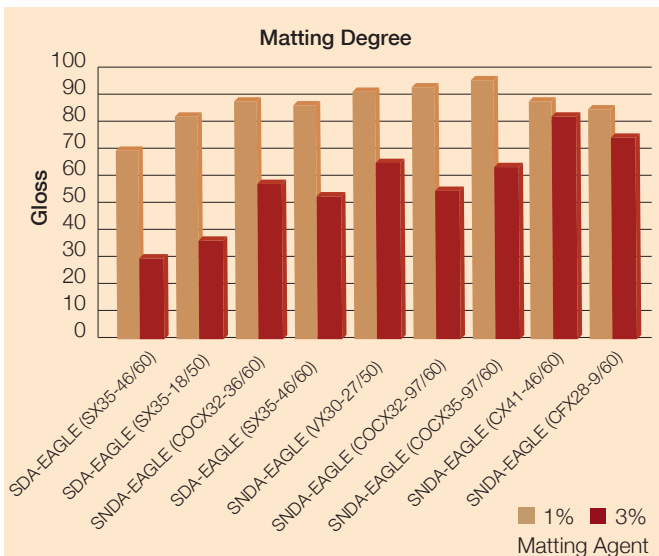
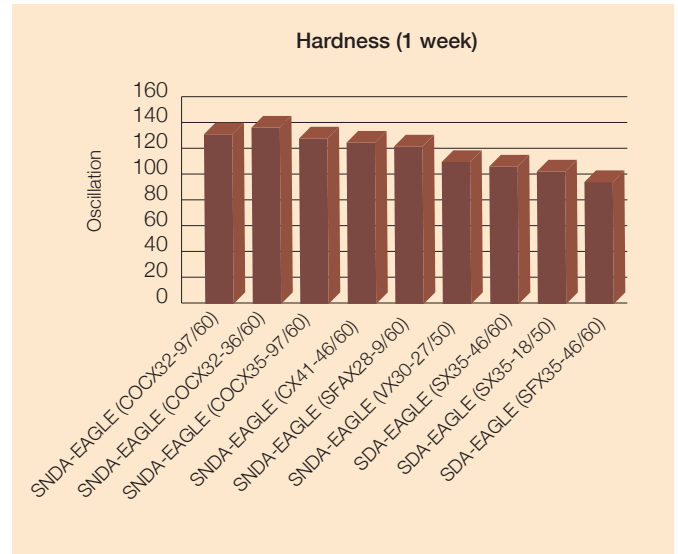
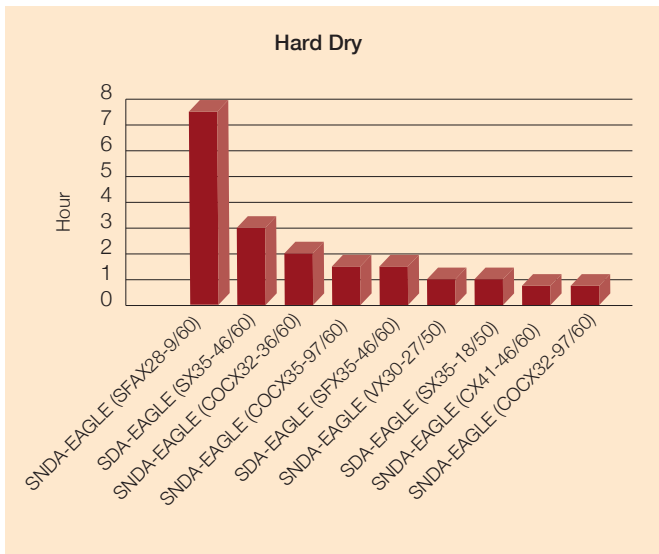
RESINS FOR 2K POLYURETHANE SYSTEM

4.1.2 2K PU Clear Lacquer

GUIDE FORMULATION 2K PU Clear Lacquer

Raw Materials	Gloss	Matt	Remarks
SNDA-EAGLE (COCX32-97/60) 70%	400.0	400.0	Short drying alkyd resin - EAGLE CHEMICALS
Butyl acetate	50.0	50.0	
Xylene	49.25	43.25	
BYK 320	0.00	1.00	Leveling agent
OK 412	0.00	5.00	Matting agent
Byk 331	0.50	0.50	Leveling agent
BYK 333	0.25	0.25	Surface slip agent
TOTAL	500.0	500.0	

Raw Materials	Kg	Remarks
Desmodur L75 BA/X	175.0	Aromatic polyisocyanates
Butyl acetate	30.0	
Xylene	45.0	
TOTAL	250.0	
TOTAL ALL	750.0	



RESINS FOR 2K POLYURETHANE SYSTEM

4.2 SATURATED POLYESTER RESIN

Excellent flexibility, unsurpassed deep shine and build film with mirror like effect

SATURATED POLYESTER RESIN	N.V.	OH%	Vis. cP @25 °C	Color (Gardner)	Main feature
SP-EAGLE (TS-30X75)	75%	3.2	Z1 - Z3	5 Max	High quality clear coat

GUIDE FORMULATION Clear lacquer Based On saturated polyester sealer

1st Pack

Raw Materials	Kg	Remarks
SP-EAGLE (TS-30X75) 75%	630.0	Saturated polyester resin - EAGLE CHEMICALS
Butyl acetate	70.00	
Xylene	297.5	
Byk 331	2.00	Leveling agent
BYK 333	0.50	Surface slip agent
TOTAL	1000.0	

2nd Pack

Raw Materials	Kg	Remarks
Desmodur L75 BAX	280.0	Aromatic polyisocyanates
Butyl acetate	110.0	
Xylene	110.0	
TOTAL	500.0	
TOTAL ALL	1500.0	

Konig pendulum hardness (Time after application)	1 day	3 days	1 week
SP-EAGLE (TS-30X75) 75%	99	135	145

Sheen Spectrometer (Sheen @ 60°)	1 day	3 days	1 week
SP-EAGLE (TS-30X75) 75%	93.4	93.4	93.4

Mechanical records machine	Touch dry	Tack free	Hard dry	Through dry
SP-EAGLE (TS-30X75) 75%	<5 min	<5 min	4:30 hr.	24:00 hr.



RESINS FOR 2K POLYURETHANE SYSTEM

4.3 HYDROXY ACRYLIC RESIN

High quality sealer, can be overcoated with most coating systems

HYDROXY ACRYLIC RESIN	N.V.	OH%	Vis. cP @25 °C	Color (Hazen)	Main feature
AC-EAGLE (OH60-20X55)	55%	1.8%	2000 @55%	50 Max	Good sanding
AC-EAGLE(OH33-45XBA50)	50%	1.0%	4500 @50%	50 Max	Sanding and matt
AC-EAGLE (OH66-20BA50)	50%	2.0%	2000 @50%	50 Max	CAB compatible

4.3.1 2K PU Sanding Sealer

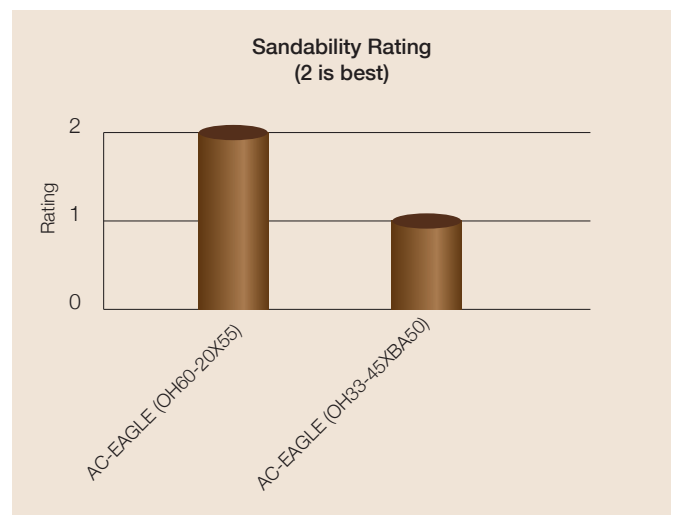
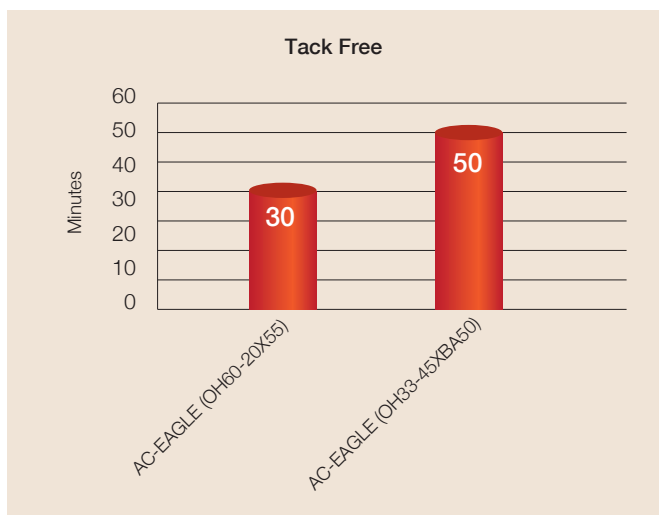
GUIDE FORMULATION 2K PU Sanding Sealer

1st Pack

Raw Materials	Kg	Remarks
AC-EAGLE (OH60-20X55) 55%	350.0	Hydroxy acrylic resin - EAGLE CHEMICALS
Butyl acetate	25.00	
Xylene	54.50	
Byk 331	0.50	Leveling agent
Zinc sterate	20.0	Sanding agent
MEK	50.0	
TOTAL	500.0	

2nd Pack

Raw Materials	Kg	Remarks
Desmodur L75 BAX	63.0	Aromatic polyisocyanates
Butyl acetate	98.0	
Xylene	89.0	
TOTAL	250.0	
TOTAL ALL	750.0	



RESINS FOR 2K POLYURETHANE SYSTEM

4.3.2 2K PU Clear Lacquer

High quality, excellent durability, high chemical and blocking resistance

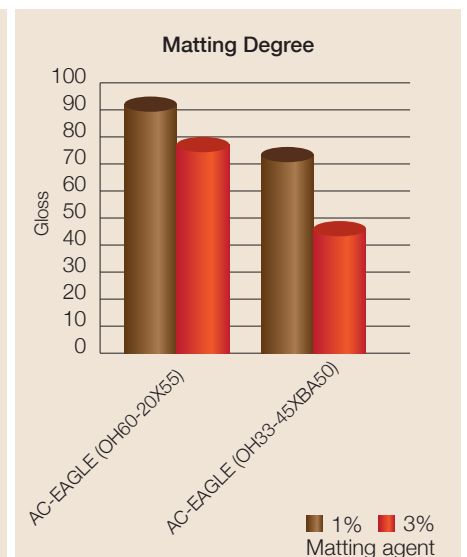
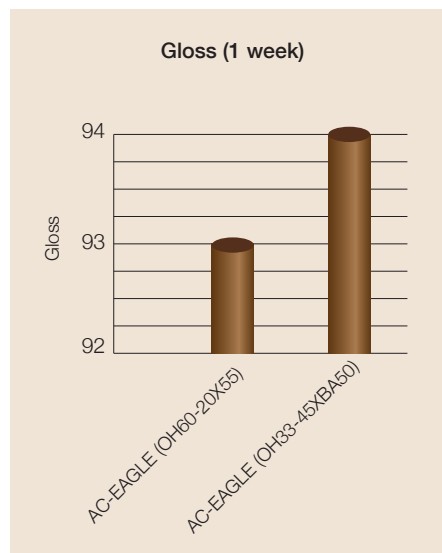
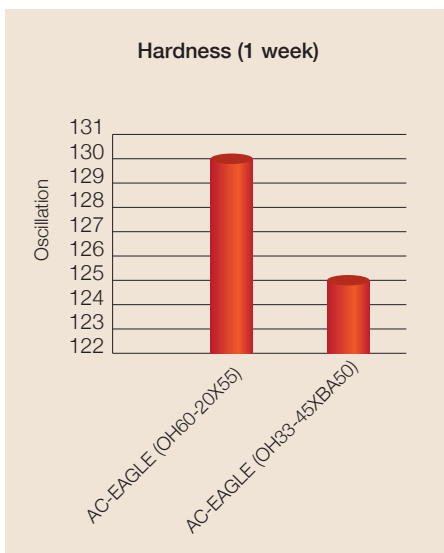
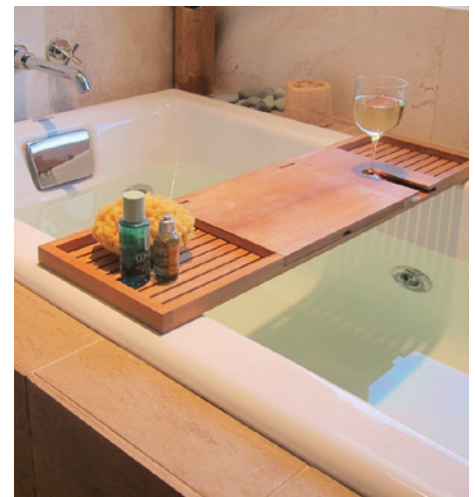
GUIDE FORMULATION 2K PU Clear Lacquer

1st Pack

Raw Materials	Gloss	Matt	Remarks
AC-EAGLE (OH66-20BA50) 50%	400.0	400.0	Hydroxy acrylic resin - EAGLE CHEMICALS
Butyl acetate	50.00	50.00	
Xylene	49.25	43.25	
Byk 331	0.50	0.50	Leveling agent
BYK 333	0.25	0.25	Surface slip agent
BYK-320	0.00	1.00	Leveling agent
OK 412	0.00	5.00	Matting agent
TOTAL	500.0	500.0	

2nd Pack

Raw Materials	Kg	Remarks
Desmodur L75 BAX	73.0	Aromatic polyisocyanates
Butyl acetate	77.0	
Xylene	100.0	
TOTAL	250.0	
TOTAL ALL	750.0	



RESINS FOR ACID CURING SYSTEM

5. RESINS FOR ACID CURING SYSTEM

5.1 SHORT ALKYD RESINS

5.1.1 Acid Curing Clear Lacquer

A hard durable, firmly adherent and abrasion resistant

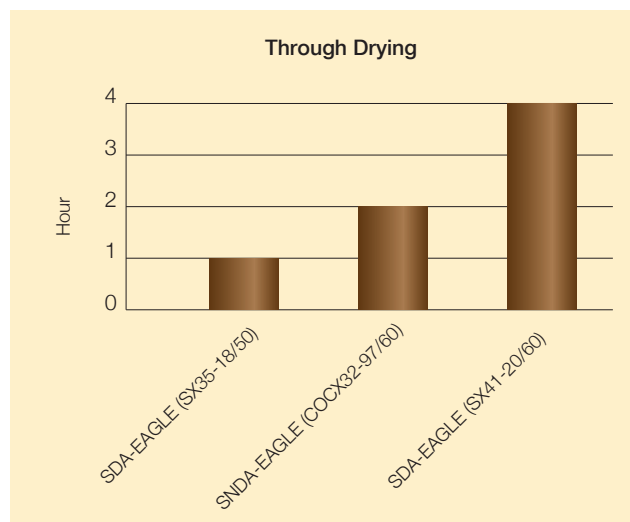
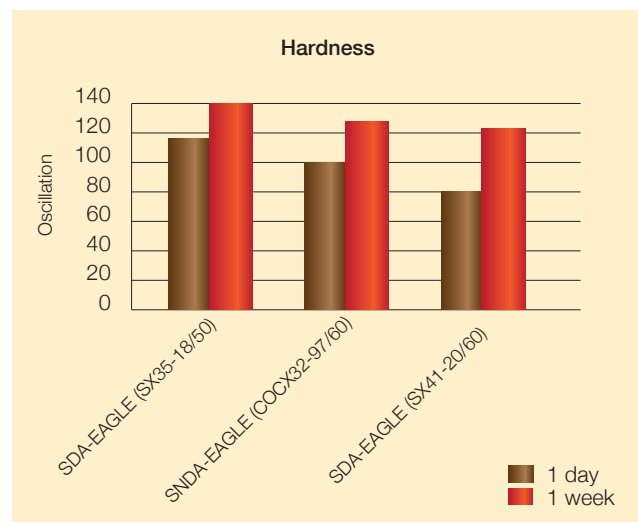
GUIDE FORMULATION Acid Curing Clear Lacquer

1st Pack

Raw Materials	Kg	Remarks
SDA-EAGLE (SX35-46/60) 60%	475.0	Short drying alkyd resin - EAGLE CHEMICALS
Setamine US119 BB65	331.0	Amino resin
N.Butanol	47.5	
Butyl glycol	79.0	
BYK 306	3.00	Substrate wetting
Xylene	64.5	
TOTAL	1000.0	

2nd Pack

Raw Materials	Kg	Remarks
p.Toluene sulphonic acid	22.0	Acid catalyst
Methanol	18.0	
N.Butanol	60.0	
Total	100.0	
Total all	1100.0	



ASTM STANDARDS used for products evaluation

HARDNESS: Drying on glass panels (60 µm wet) at 25°C (ASTM D4366) - Konig pendulum hardness

GLOSS: at suitable substrate (120µm wet) at 25°C (ASTM D523) - Sheen spectrometer @suitable angle

DRYING TIME: Result on glass panels (100µm wet) drying at 25°C (ASTM D5895) - Mechanical records machine

FOR PU-2K SYSTEM CALCULATION: The calculation based on the OH% on solid for all EAGLE CHEMICALS resins included short drying alkyd, short nondrying alkyds, hydroxy acrylics and saturated polyester resins

$$100 \text{ gm of EAGLE CHEMICALS OH-Resin} = \frac{247 \times \text{OH} \%}{\text{NCO} \%}$$

EL Shark Company for Trade & Industry / Eagle Polymers Company

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Factories

**Solvent Borne Resins
& Acrylics + UPR plants**

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6th October Egypt
Tel: +20 2 38202871/2
Fax: +20 2 38202481
Gsm: +20 12 86299222

Emulsion Resins plant

Engineering Square (E2)
Industrial Complex
North Extensions Industrial
Zone
Part NO# B4- H2- H4 H6
6th October, Egypt