



High Performance Paint Product Data Sheet



ALUCOTE SINGLE PACK ALUMINIUM CLEAR COAT



DESCRIPTION: ALUCOTE 1K is a single pack water based coating with excellent toughness, exterior durability, adhesion, gloss retention and hydrocarbon solvent resistance.

TYPICAL USES: Clear brush, roll or spray applied finish for aluminium, galvanised iron and other non-ferrous metals where a resistant clear coating is required to improve cleaning and particularly corrosion performance in difficult to access areas.

PERFORMANCE: ALUCOTE 1K is a waterborne coating that dries quickly, reaching tack free in 5 minutes and is hard dry in 24 – 48 hours (depending on temperature). It is recommended that care should be taken while handling and transporting painted items to avoid damage to the fresh coating. While every effort is made to detail preparation and pre-treatment we recommend that trials are undertaken by the applicator to develop the most suitable pre-treatment and painting method to suit their individual expectations.

LIMITATIONS: This is a waterborne product, which is expected to be applied over well-degreased and chemically cleaned and treated surfaces. Depending on the conditions, the cure time may be extended; hence, it is important to protect painted surfaces to avoid any damage. Always mix well before use as the contents may settle.

TECHNICAL DATA:

Resin:	Novel Hybrid
Solvent:	Water
Finish:	Gloss (75+% @ 60°)
Colour:	Clear
Set up (Tack) time	1-5 min @ 25°C
Touch Dry (minimum):	15 min @ 25°C
Recoat Time (minimum):	Overnight
Primer:	n/a
Number of Coats:	2
Dry Film Thickness:	35 - 52 microns per coat
Wet Film Thickness:	100 - 150 microns per coat
Exterior Durability:	Excellent
Thinning and Clean Up:	Water
VOC:	130g/l
Abrasion Resistance:	56mg loss @ 1000gm/1000cycles
Impact Resistance:	160 in-lb
Pencil Hardness:	3H
Pack Size:	1, 4 Litre

SPREAD RATE:

Theoretical Coverage:	10-12 m ² /litre/coat.
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COMPUTER CODES:

ALUCOTE 1K CLEAR

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CORROSION PERFORMANCE

- Product tested to and passes General Motors Engineering Standard GM9540P. Results in the table below show performance after 1440 hrs
- ASTM G 85-A1
- ASTM D 4585-07

Preparation	Surface treatment	Application	Blistering	Creep corrosion (0 worst, 10 Nil)
Degrease Action Cleaner	Bonderite 1455	Wipe	Nil	10
Degrease Action Cleaner	Alodine 5700	No Rinse	Nil	10
Acid Etch	Applied Chem 2571	Spray	Nil	10
	Chrome 6 Conversion	Spray	Nil	10

CHEMICAL RESISTANCE

Chemical	Soaked cotton wool left on surface for 10 min.
Petrol	No change
MEK	Very slight shadow
Toluene	No change
Kerosene	No change
Diesel	No change
White Spirit	No change
Methylated Spirit	Surface eroded and sticky after 1 min
Hydrochloric Acid 10%	Unmarked
Hydrochloric Acid 33%	Unmarked
Phosphoric Acid 85%	Surface softened and milky. Hardened on drying but still milky
Lactic Acid 88%	Surface softened and milky. Hardened on drying but still milky
Sodium Hydroxide 10%	Unmarked
Sodium Hydroxide 50%	Unmarked
Ammonia 0.91	Unmarked

SURFACE PREPARATION:

ALUMINIUM:

Aluminium is a difficult metal to coat unless correctly pre-treated before painting.

Note: Adhesion and corrosion performance of the coating to aluminium that has not had an acid wash and/or chromate type pre-treatment will be limited. Solvent or alkaline washing is not the preferred method of treating the aluminium surface prior to painting.

The surface of aluminium is a mixture of a number of oxides, hydroxides and other salts and as such is extremely difficult to get paint to have good adhesion to. Drawing and rolling oils can penetrate deeply into this layer and solvent washing (unless done to a very high degree where no further black colour comes off on a clean white rag) is mostly insufficient. Corrosion resistance is also compromised if the aluminium surface is not chemically treated and this may lead to early creep corrosion, blistering or flaking.

Pre-treatment:

This is a recommended system, however other equivalent products may be used. Results for corrosion shown in this data sheet are for the recommended system, any other products used should be independently tested to verify results.

Degrease and clean the surface with Henkel Action cleaner. Rinse thoroughly and allow to dry. Pre-treat the surface with a chrome or non-chrome product such as Henkel Alodine 5700 or Bonderite 1455 following the manufacturer's instructions.

Acid washing:

Apply a proprietary acid wash (cleaner and hydrofluoric acid type) by spray in a controlled environment to achieve a uniform etch across the whole surface. Rinse thoroughly (to neutral pH) and allow to dry.

GALVANISED STEEL:

Solvent wash to remove all grease/oil. Clean thoroughly using an acidic galvanised iron cleaner, as per manufacturer's instructions. Dry thoroughly. Zinc forms a stable oxide layer very quickly and in most cases, acceptable adhesion of the paint is achieved with less preparation than is required with aluminium.

OR

Degrease with Henkel Action cleaner, rinse and dry, and then treat with Henkel Alodine 5700 following the manufacturer's instructions.

OTHER SURFACES:

Please seek advice from COTEC representatives for suitable products for your applications.

Note: Commencement of work on a surface means in general you accept that surface. If any doubt about condition etc, seek advice.

APPLICATION:

Stir well before application. Product may be thinned up to 15% with water to ease application. Water based products such as Alucote1K are by nature more viscous than solvent based equivalents and will require thinning with water to achieve the desired spray viscosity.

Waterborne paint is very different to solvent paint in application. Unlike traditional solvent paint, water based products do not lend themselves to being applied in light coats and built up slowly. Doing this will only lead to the first coats drying rapidly and the following coats simply sitting on the top and not fusing and flowing into a continuous film.

Brush and roller: Can be used as supplied or thinned up to 15% with water.

Spray: Pressure pot, airless, HVLP or cup gun.
Tip size should be a size or two larger than used for equivalent solvent based products (1.4 – 1.8 mm) when doing larger areas so the paint can be applied in a full wet coat and then allowed to flow and set up.
Practice will be needed before committing to large jobs and particularly learning to “read” the coating as it is applied.
The clear will slowly begin to take on an opaque look as the film build increases from about 100 micron and this should be considered the minimum. Over 150 micron the film will appear quite “white” and patchy and this indicates that the film is now at the top end of thickness and may begin to run and sag.
Air settings should be at the lower end both as fluid and atomising pressures. Start at 30 – 40 psi and work up until good paint spray volume is achieved however keep the fan width relatively narrow as wide fan with a fine misting edge can lead to dry overspray.

Force Drying: This product is suitable for force drying. However, the drying conditions should be strictly controlled (under 60°C) to prevent any blistering or mud-cracking.

THINNING & CLEAN UP:

Thin with water. Maximum thinning is 15%. Clean up with water and detergent.

ENVIRONMENTAL:

This formulation uses the latest technology with low toxicity, ensuring environmental issues are not compromised. DO NOT POUR paint or wash down storm water or water courses. ALWAYS dispose of in accordance with local Government regulations. Soak up spills with absorbent material and dispose of properly. If spraying use suitable respiratory protection. Refer to the MATERIAL SAFETY DATA SHEET.