

APPLICATION

Protecta-kote is a single component polyurethane that can easily be applied by roller, brush or spray to provide an attractive impact resistant coating. Unlike other coatings it is non abrasive and so does not damage goods or items placed on it.

CURING TIME

Depending on temperature and humidity Protecta-kote can normally be put into light use after approximately 8-14 hours. Full chemical resistance and physical strength are reached in 4-7 days.

COVERAGE

1.2-1.6m² per litre for normal applications
0.5 – 0.8m² per litre for high wear applications

STORAGE

Store indoors between 5 -25 oC out of direct sunlight. Excessive temperature may cause thickening.

SHELF & POT LIFE

Protecta-kote has a shelf life of 1 year from date of manufacture and is best used within 24 hours from first opening. Do not open tins until they are to be used.

SURFACE FINISH

Protecta-kote includes small rubber granules that give it a unique textured appearance, this will vary slightly depending on how it is applied. The finish is glossy, however as with all aromatic polyurethanes this will reduce over time.

COLOURS

Protecta-kote is available in standard aromatic versions in Black, Grey, Blue, Red and Green. It is also available in UV stable aliphatic versions in White, Safety Yellow and Mid-Grey. Other colours are available however minimum order quantities will apply.

SIZES

Protecta-kote is available in 1 & 4 litre standard tins, it is also available in black and grey in spray tins and special application kits that include rollers, brushes and scotchpads.

Product Overview

POLYURETHANE PROTECTIVE COATING

New Venture Products Ltd Tel: 0845 430 4030 www.protectakote.co.uk

CO-EFFICIENT OF FRICTION (ASTM D1894) (g/g) 200g sled

DRY

Static Kinetic

WET

Static Kinetic

OIL (SAE 30)

Static Kinetic

Black 1.7 1.4 1.2 1.1 2.0 1.1

Grey 1.7 1.4 1.2 1.1 2.0 1.1

TENSILE STRENGTH (ASTM D638)

Tensile strength at break (MPA)

7 day cured 11-15

After 500 hrs QUV (n=4) 11-15

ELONGATION (ASTM D638)

ELONGATION (%)

7 day cured 330 – 400

After 500 hrs QUV (n=4) 330 – 400

UV RESISTANCE

500 hrs of QUV accelerated weathering resulted in no deterioration in physical properties and no surface cracking. There was a loss of gloss and 'yellowing' of coloured samples.

IMPACT RESISTANCE

Due to its excellent flexibility, Protecta-kote has the ability to stay bonded to substrates even when they are deformed by impact.

CHEMICAL RESISTANCE

Protecta-kote has good chemical resistance to most dilute acids, bases and salts and many

solvents. Further details are available on request.

TEMPERATURE RESISTANCE

Protecta-kote recommended service temperature is from - 50° C to 120° C.

See MSDS for health & safety information – available on request or on-line.

Protecta-Kote - Application Instructions

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SURFACE PREPARATION

IMPORTANT — READ CAREFULLY!

PROTECTA-KOTE™ will bond well to all prepared, clean, thoroughly dry surfaces. On soundpainted

surfaces, paint must be fully dried or cured to manufacturer's specifications. The solvents in PROTECTA-KOTE™ will not soften or attack properly dried or cured paint.

GENERAL DIRECTIONS

Always clean the surface of all oily or waxy contaminants by using recommended cleaning solvent

ensuring that no residue is left.

DO'S AND DON'TS

DO Use only xylene cleaning solvent as last step before applying PROTECTA-KOTE™ and to thin PROTECTA-KOTE™ if necessary.

DON'T Clean surfaces with lacquer thinners or any solvent containing alcohol, as this will prevent PROTECTA-KOTE™ from curing.

DO Clean surface with strong aggressive alkaline detergent and rinse thoroughly.

DON'T Assume surface is clean unless you have cleaned it yourself!

DO Ensure surface is completely dry beforehand.

DO Test doubtful surfaces beforehand for adhesion with PROTECTA-KOTE™

DON'T Shake can to mix. (Rubber granules will not mix evenly.)

DO Stir PROTECTA-KOTE™ thoroughly before application (preferably with an electric mixer) to keep rubber granules in suspension and aid speed of curing.

DO Keep PROTECTA-KOTE™ rubber granules in suspension by stirring periodically.

DO use a Polypropylene stipple roller for good distribution of the rubber granules. Nb. Use of other

types of rollers may cause clumping.

DON'T allow PROTECTA-KOTE™ to become wet (dew or rain etc.) before it is dry.

SURFACE PREPARATION FOR SPECIFIC ADHESION

IMPORTANT! -- READ CAREFULLY!

The following information is provided as a guide only, because substrates can differ significantly.

All

surfaces of which you are unsure should first be tested to ensure adhesion

CONCRETE

For best results with NEW concrete:

- Fully cure — for at least 28 days
- Give concrete a brush finish
- Hand trowel (power troweling may overwork the concrete)
- Thoroughly clean with a citric cleaner or equivalent, rinse and thoroughly dry.
- Dilute first coat 10% with Xylene

For best results with OLD concrete:

- Shotblast, if possible. or
- Thoroughly clean with concrete floor etch
- Agitate solution on surface with a hard-bristled deck brush for approximately
- 10 minutes, to open pores on surface.
- Rinse off thoroughly with clean water (an acid residue might cause delamination)
- Dry completely. If necessary, use a heat source.
- Brush off residue
- Dilute the first coat with 10% Xylene

Sealed concrete should be tested for PROTECTA-KOTE™ adhesion:

1. Roughen surface
2. Clean surface thoroughly
3. Allow to dry completely
4. Apply PROTECTA-KOTE™ with the first coat diluted by 10%
5. If delamination occurs, sealer must be removed by mechanical means (i.e. shot blasting)

While it is not usually needed on concrete, a primer such as DuraPrime can provide enhanced adhesion. It is also recommended for where there is no damp membrane and the surface suffers from rising damp

CONCRETE PLUS PRIMER

PROTECTA-KOTE™ exhibits good adhesion to most acrylic and polyurethane primers newly applied and over coated to manufacturers recommendations within time specifications. Check with

manufacturer that primer will bond to one-part moisture-cured polyurethanes.

ALUMINUM

Abrade to obtain roughest surface possible. May or may not require additional primer.

Recommend

test. If needed use a suitable etch primer such as Metcote or Trimite SAP3. Metcote is not recommended if there is standing water.

METAL

All smooth metal should be thoroughly cleaned, aggressively roughened and primed with etch primer. PROTECTA-KOTE™ adheres well to sound-painted metal. Rough metal surfaces such as

pitted rust need not be primed; however, all loose scale should be removed. On applications of extreme wear, such as the front of steps, a primer is recommended. When in doubt, it is recommended to pre-test a small area with and without primer.

CAUTION! When priming metal surfaces, the primer must be fully dry before over-coating.

Careful

attention must be given to manufacturer's recommended window of minimum and maximum time for

over-coating primer with polyurethanes.

GALVANISED STEEL

1. It is essential that galvanized steel is cleaned and abraded until it is 'water-break free'. In this state, when wet, water will form a thin film that will not retract at the edges or break or bead at all, even on vertical standing.

2. Cleaning can be done with a scouring pad and an alkaline (only) domestic detergent. Certain 'Galv Cleaners' are also effective at producing a 'water break free' surface.

3. Rinse well with water.

4. Prime with Duram Metcote or a recommended etch primer.

WOOD

If wood texture is rough, it may not require special preparation. For best results, abrade surface of

wood then wipe with Xylene moistened rag before applying PROTECTA-KOTE™ Better coverage

will be achieved if the wood is primed first, this must be completely dry before applying PROTECTA-KOTE™. If in doubt, make a small test application first, PROTECTA-KOTE™ will bond

to pressure treated wood without priming. Oily woods such as teak should be primed with DURAPRIME™ prior to being painted with PROTECTA-KOTE™.

PAINT AND VARNISH

1. Remove all peeling, cracking or chipping paint.

2. Clean surface thoroughly.

3. For best results, lightly abrade surface.

4. Wipe with xylene immediately before PROTECTA-KOTE™ application.

5. On epoxy coatings, soak with xylene for 10 minutes, wipe off, roughen and wipe once more with xylene.

RUBBER

Clean well using detergent or cleaning solvent, removing all surface release agents. Rinse well and allow to dry. Abrade surface aggressively, wipe off with xylene, and then apply PROTECTA-KOTE™. Nb: PROTECTA-KOTE™ will not bond to chlorinated rubber.

FIBREGLASS

Good adhesion can be obtained on un-weathered gel-coated glass, rough fibre, side moulded glass,

and smooth-mould resin-side glass. Surface should be free of release agent, waxes and other production additives, then roughened well to remove all gloss, leaving a high profile surface. To ensure optimal bonding, use an etch primer.

HOW TO APPLY PROTECTA-KOTE™ for roller, brush or spray applications is available in 1 litre and 4 litre containers. Using the roller application will provide a rougher final texture than either the

brush or the spray applications. Before applying PROTECTA-KOTE™, it is important that the surface

to be coated is completely clean. (See Surface Preparation). Mask all areas not to be coated. Remove masking tape after application of second coat, do not allow it to fully cure before removing.

If tape sticks, cut along edge with razor.

IMPORTANT -- READ CAREFULLY!

PROTECTA-KOTE™ contains flammable solvents. Ensure proper ventilation and fire precautions.

ROLLER APPLICATION

Apply PROTECTA-KOTE™ with textured, open-foam stipple roller. Rollers are available in 7" (other

sizes available on request). **DO NOT USE STANDARD EMULSION ROLLERS.**

Apply first coat as a thin coat to fully cover. When touch dry (usually within 1-2 hours), apply second coat (ideally at 90 degrees to first coat). To avoid "mud cracking," do not apply PROTECTA-KOTE™ too thickly. Pour some thinner/cleaner (Xylene) over rollers between coats so rollers will not dry out. Inter-coat / curing time can be significantly shortened by the use of

special accelerator (see section on accelerator). Extreme climatic conditions of heat, cold and humidity can shorten or lengthen this period.

BRUSH APPLICATION

PROTECTA-KOTE™ can be applied with a soft paint brush in two coats at right angles to one another. (PROTECTA-KOTE™ is not a paint, and should be laid onto the surface, in one direction,

not brushed out as an oil or latex paint.) Between coats, clean brush only with recommended thinner/cleaner (xylene). The second coat can be applied as soon as the first coat is tacky or touch

dry (usually within 1/2 hours). Extreme climatic conditions of heat, cold and humidity can shorten or

lengthen this period.

COVERAGE

One litre covers a flat area of about 1-1.5 square metres in two coats, with a final dry coat thickness

of 29-39 mils.

- PROTECTA-KOTE™ should be stirred thoroughly before applying -- preferably with an electric paint mixer -- as shaking the can will not mix rubber granules evenly .
- Stir periodically to maintain rubber granules in suspension.
- Do not apply PROTECTA-KOTE™ too thickly, or pooling and "mud cracking" may occur, resulting in loss of slip resistance.

- If PROTECTA-KOTE™ goes on too thickly, wait until the surface begins to get tacky and go over it with a relatively dry stipple roller in one direction.
 - PROTECTA-KOTE™ is a moisture-cured product. An open or partially used can will thicken and eventually become unusable. Seal can well and turn upside down for a few minutes. This will seal any space in the can and may prolong the life of the unused portion of PROTECTA-KOTE™. You can also pour the unused PROTECTA-KOTE™ into a smaller sealed container.
 - If the product thickens slightly, but is still liquid, it can be thinned by using up to 15% of the recommended thinner/ cleaner xylene without affecting performance.
- IMPORTANT: Other solvents can cause product failure. Do not dilute product or clean rollers, brushes or spray guns with lacquer thinners.
- Once the consistency of the product has become pasty and un-mixable, it should be discarded. If PROTECTA-KOTE™ is thick but still liquid, it can be thinned with xylene and used.
 - Normally, PROTECTA-KOTE™ can be subjected to light foot traffic within 12 hours. This time can be reduced significantly by using accelerator. The coating should not be subjected to cleaning or chemical exposure until fully cured, in 4-7 days.
- PROTECTA-KOTE™ takes about 4-7 days to fully cure: less in hot humid conditions, and more in cold dry weather. With accelerator, curing time is reduced by up to 75%.
- PLEASE NOTE that full curing time only affects the amount of time required to wait before subjecting the surface to cleaning and chemical exposure. Surface can be subjected to loading well before this minimum time requirement (see above).

SPRAY APPLICATION

PROTECTA-KOTE™ can be sprayed using a simple shutz gun, a hopper gun, or professional spray equipment. Make sure to thoroughly mix PROTECTA-KOTE™. A drill with a mixing adaptor works best. PROTECTA-KOTE™ should flow through the spraygun easily and can be thinned with Xylene.

- Use a respirator with chemical absorbing cartridges.
- Before starting the job, spray a few short bursts away from the surface to test that everything is working properly.
- If PROTECTA-KOTE™ does not spray easily and evenly, thin with enough xylene (up to 10%) to spray easily.
- Spray an even coat over the entire surface to be covered in a quick, “S”-shaped motion. Be careful not to apply coat too thickly.
- When surface becomes tacky, spray second coat. Extreme climatic conditions of heat, humidity and cold can shorten or lengthen the drying period.
- Intercoat / curing time can be significantly shortened by use of special accelerator.

IMPORTANT ADVICE!

- Do not use thinners with PROTECTA-KOTE™ as the alcohol in it will prohibit it from curing.
- Remove any over-spray immediately with Xylene. PROTECTA-KOTE™ is very difficult to remove once cured.
- Solvents released when spraying are flammable. Observe all fire precautions. Proper ventilation is required.
- Remove any masking prior to the PROTECTA-KOTE™ curing or it will be very difficult to remove.
- Keep water out of hose line or foaming could occur.
- Clean spray gun between coats and immediately after job is completed. Use only approved thinner/cleaner Xylene.

THE CARE AND MAINTENANCE OF PROTECTA-KOTE™ SURFACES

Once PROTECTA-KOTE™ coatings have fully cured, they are very easy to maintain. Because PROTECTA-KOTE™ cures to an impermeable membrane, all dirt sits on the surface.

CAUTION! If dirt sets in on PROTECTA-KOTE™ surface while it is soft and before it is cured, it could

become permanently in-bedded.]

1. Use any general floor cleaner.
2. IMPORTANT! For best results, use a stiff bristled deck brush to agitate cleaner on the surface.

(A

cotton mop is not recommended since pieces of mop may get caught on high profile of PROTECTAKOTE

™ surface. A synthetic fibre material mop may be used if a deck brush is unavailable.

3. Rinse surface thoroughly to remove all residue.
4. Remove all water with sponge mop, 24 oz. mop or water vacuum.

ALTERNATIVE METHODS

Pressure Washer

A wide-angle water pressure spray of 600-700 PSI can clean PROTECTA-KOTE™ without damage to the surface.

ROTARY MACHINE

A rotary 14" waxing-type machine with a (thickline) blue pad can be used.

RINSE-FREE DETERGENT

If a rinse-free detergent is used, the dirty water pickup can be done with a water vacuum.

AUTOMATIC SCRUBBERS

PROTECTA-KOTE™ surfaces can also be cleaned with use of automatic scrubbers. These are machines which, in one pass, put down the washing solution, scrub the floor with a (blue) pad, and

vacuum up the dirty water. The pad pressure used in the scrubber (using a blue pad) need only be

sufficient for the pad to make light contact with the floor. Heavy scrubbing will negatively affect the

PROTECTA-KOTE™ surface.

SPECIFIC CLEANING PROBLEMS

GREASE SPILLAGE

To clean a PROTECTA-KOTE™ surface of a greasy or slippery solution, use a slightly more aggressive detergent, containing a degreaser, available from chemical suppliers.

REMOVAL OF STICKY SUBSTANCES

For removal of gum or other sticky substances from a PROTECTA-KOTE™ surface, use a pressure

washer as above. A wide-angle water-pressure spay of 600 to 700PSI, at an angle of 35-40 degrees, should enable the removal of gum pieces within 10 to 15 seconds without any damage to

the PROTECTA-KOTE™ coating.

REMOVAL OF ORGANIC STAINS

Organic stains, such as leaves, can be removed using a cleaner with a neutral PH or as close to neutral at possible. Leave on for 5 to 10 minutes. Rinse off according to manufacturer's recommendations. This will only work if the stain has occurred after PROTECTA-KOTE™ has fully cured.

REPAIRING PROTECTA-KOTE™

PROTECTA-KOTE™ can easily be repaired or over-coated, because it bonds to itself.

- Cut out all damaged PROTECTA-KOTE™ to eliminate uneven edges.
- Clean area to be repaired and rough up surrounding PROTECTA-KOTE™ with 60-grit sand paper.
- Clean area with xylene.
- On exposed surfaces to which PROTECTA-KOTE™ does not bond easily, a primer may be needed.

- Brush, roll, or spray fresh PROTECTA-KOTE™ onto cleaned areas, as per application instructions.

ACCELERATOR

A liquid accelerator (available from NVP) can be used to reduce the drying/curing time by up to 50%, depending on the climatic conditions. This may be helpful in areas of low atmospheric moisture, or when shorter curing/drying times are required.

DIRECTIONS

- Contents of accelerator should be added to the PROTECTA-KOTE™ can upon opening, one 3ml sachet per 4 litre tin.
- The mixture should be stirred thoroughly to assure complete blending and then apply as per PROTECTA-KOTE™ regular instructions
- Accelerator will not affect product performance. It will only speed drying and curing time.

ADDITIONAL SLIP RESISTANCE

For added slip resistance in very wet conditions or extreme slopes, 60-grit silicon carbide can be scattered onto the top coat of the PROTECTA-KOTE™ application.

DIRECTIONS

- Use a simple flour shaker or similar.
- The silicon carbide should be applied immediately after the top coat PROTECTA-KOTE™ has been laid and while it is still very wet.
- Sprinkle the silicon carbide lightly over the wet PROTECTA-KOTE™ as evenly as possible.
- 30 grams of silicon carbide will cover approximately 1 square metre of PROTECTA-KOTE™
- Alternatively thoroughly mix 200 grams of 250 Micron silicon carbide in per litre

MATERIAL SAFETY DATA SHEET : PROTECTAKOTE

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SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

NAME: PROTECTAKOTE

C.A.S. No.: N/A E.C. No.: N/E E.C. LABEL: N/E ECOCHEM REF.: 96.27.02

UN/SIN No.: 1263 EAC: 127 HAZCHEM: 3 Y KEMLER: 33

HAZARD RATING: SAPMA: 2-H-J

IN EMERGENCY CONTACT: THE TECHNICAL MANAGER AT PHONE: +27 (021) 555-3090

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

EC CLASSIFICATION: XN R10,20,36/37/38,42,65 S2,16,24/25,42C,43A,62

HAZARDOUS AND/OR OTHER RELEVANT COMPONENTS

MDI (ISOCYANATE MONOMER) < 1% EECLabels: XN R20,36/37/38,42 OEL .05 mg CL

XYLENE (XYLOL) >20% EECLabels: XN R10,20/21,38 OEL 435. mg RL+"S"

(CL/RL = Controlled/Recommended level "S" = Skin annotation)

SECTION 3. HAZARDS IDENTIFICATION

SAPMA HEALTH RATING: 2-MODERATE - Temporary or minor injury possible even if treatment is given.

Inhalation sensitiser

INHALATION: HARMFUL. Contains ISOCYANATE. Sensitiser with accumulative effects.

SKIN: Irritating, risk of dermatitis.

EYES: Irritating.

INGESTION: Irritating and nauseating.

NO CARCINOGENIC, MUTAGENIC OR GENETIC EFFECTS ESTABLISHED

May have short term environmental effects. Contain, monitor & remove.

SECTION 4. FIRST AID MEASURES

INHALATION: Move to fresh air. In case of any discomfort seek medical attention immediately.

SKIN: Use hand cleaner/soap & water. Remove contaminated clothing. If any discomfort get medical attention.

EYES: Rinse immediately with plenty of water. Seek medical advice.

INGESTION: Wash mouth with plenty of water. Do NOT induce Vomiting. Seek medical advice.

SECTION 5. FIRE FIGHTING MEASURES

Flammable with toxic fumes.

Containers can become pressurised if contents are contaminated with water.

Foam. CO₂. Dry powder. Fog to cool and control. Do NOT use water jets.

Blown or distorted containers should be handled with extreme caution.

SECTION 6. ACCIDENTAL RELEASE MEASURES - SEE ALSO SECTIONS 5,8 & 13

Contain & collect. Keep out of drains and sewers

SECTION 7. HANDLING AND STORAGE

Store separately from any reactive substances - oxidisers in particular.

No open flames. No smoking.

OPEN WITH CARE! Cover lid / bung with a cloth while releasing pressure.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OEL.TWA: TYPE: Mixture See Section 2 "Skin"

SAPMA RATING: 2-H-J PPE: Full cover with hood

Inhalation sensitiser

INHALATION: Use respiratory protection. Handle with extreme care. Absorb any spillage at once.

SKIN: Use barrier cream and impervious gloves.

EYES: Use face shield or goggles. Avoid direct contact.

INGESTION: Observe the rules of hygiene. Wash before eating, drinking or smoking.

Appropriate hand protection and protective clothing must always be used

MATERIAL SAFETY DATA SHEET : PROTECTAKOTE

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL CLASS: MOISTURE/OH CURED RESIN APPEARANCE: LIQUID

ODOUR: PUNGENT DENSITY: 1.10 VISCOSITY: TBE NON-VOLATILE: 68%

FLASH POINT: >23°C BOILING POINT/RANGE: >100

SOLUBILITY:- WATER: Reacts

SECTION 10. STABILITY AND REACTIVITY

STATIC: Could produce static discharge - use earthing

STABILITY: Stable if stored under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Inhalation sensitiser

LD50 ORAL: N/E mg LD50 SKIN: mg LC50 INHALATION: mg

SECTION 12. ECOLOGICAL INFORMATION

May have short term environmental effects. Contain, monitor & remove.

SECTION 13. DISPOSAL CONSIDERATIONS

Hazardous. Use reputable waste disposal contractors. Destroy used containers.

SECTION 14. TRANSPORT INFORMATION

UN No.: 1263 PACKING GROUP: III IMO CLASS: 3.3 MARINE POLLUTANT

CLASS: P

EA CODE: 127 HAZCHEM CODE: 3 Y KEMLER: 33

SECTION 15. REGULATORY INFORMATION

EC INDEX No.: N/E EEC LABEL No. (EINECS/ELINCS): N/E

EC LABEL ICONS: XN HARMFUL

R10 Flammable

R36/37/38 Irritating to eyes, respiratory system and skin

S42 During spraying wear air supplied respirator.

R42 May cause sensitisation by inhalation

R65 Harmful: May cause lung damage if swallowed.

S24/25 Avoid contact with skin and eyes

S43 In case of fire, use water fog, foam or powder - Do not use water jets!

S62 If swallowed, do not induce vomiting : seek medical advice immediately show this container or label.

CONTAINS ISOCYANATE. See instructions supplied by the manufacturer.

SECTION 16. OTHER INFORMATION

CONTAINS ISOCYANATE - POTENTIAL SENSITISER - ENSURE PRECAUTIONS ARE TAKEN.

PAY SPECIAL ATTENTION TO STORAGE AND HANDLING REQUIREMENTS.

IN CASE OF ANY DISCOMFORT ALWAYS SEEK MEDICAL ADVICE.

This MSDS conforms with General Administrative Regulations dated 6 Sept. 1996.