INSTRUCTIONS

For coating unpainted bare metals using

ProtectaClear® or Everbrite™ or CrobialCoat®

*** READ THESE INSTRUCTIONS BEFORE STARTING ***

Thorough preparation is very important. If you try to take shortcuts on preparation, it is unlikely you will achieve the intended results and you may need to remove the coating and start again. The article to be coated must be scrupulously clean, with no acids or oily polish residues and completely dry before applying the coating.

1. **BUFF, POLISH, CLEAN** Polish and buff the surface to the luster desired with any metal polish. The metal can also be sanded or simply cleaned to the desired appearance. **If you are having difficulty polishing/cleaning the metal there is likely to be an old coating on the metal.** You will need to remove an old coating with a varnish/lacquer stripper (from Hardware Store) before you can polish the metal to the desired finish. **Remove films, oils, waxes and silicone** completely as these will interfere with coating adhesion or cause separation. Most waxes can be removed with ammonia. Silicone is a common coating agent which can be removed with mineral spirits (mineral turpentine) available at hardware stores. Once removed, you must still solvent wipe – See Step 4. **If mould is present** before any cleaning, wet the surface with water; then apply a bleach solution of 1 part bleach to 4 parts water and rinse off.
2. **NEUTRALIZE ACIDS – This is critical** Acid must be removed from the surface otherwise black marks/dark cloudiness will appear under the coating. **Wear nitrile powder-free gloves when handling the items to be coated as finger/handprints contain acid.** MAAS Polish does not contain acid, however many polishes do. Check the ingredient list for your polish. If unsure, complete this neutralizing step. Use EZ Prep™ Cleaner & Neutralizer in a solution of 1 part EZPrep™ to 4 parts water. As an alternative, use 1 cup baking soda mixed with 4 litres of water. (Or a similar ratio) **Wash the metal with a cloth saturated with the EZ Prep™ neutralizing solution being careful to cover the entire surface at least once.** Do NOT let the EZ Prep™ solution dry on the surface. If you do not need to neutralize the surface you can clean off any polish/oily residues using EZPrep™ as a cleaner mixed 1:100 with clean water.
3. **RINSE WELL & DRY COMPLETELY** Rinse the EZ Prep™ solution off twice with clean water. Dry with a clean cloth to prevent spotting. It is essential that the metal be completely dry before coating. Moisture trapped in the metal can cause white or yellowish spots to appear under the coating. Warming the metal with heat guns, hair dryers or extra time in warm sunny breezy weather will help moisture evaporate.
4. **SOLVENT WIPE – This is critical** Let the surface cool before solvent wiping. The surface can be warm but not hot. Just before applying the coating solvent wipe the metal thoroughly with **methylated spirits, xylene or acetone to remove any traces of residue** and to help dry the surface further. This step needs to be done immediately before coating. Do NOT dilute or rinse the solvent. This step will ensure a completely clean and dry surface. **Skipping this step will result in poor adhesion of the coating.** *Solvent is not included in kitss. NEVER USE isopropyl alcohol or turpentine as these contain oil.*
5. **COATING PREPARATION**

- ***Natural Gloss*:** There is NO requirement to stir clear natural gloss coating.
- ***Satin Finish:*** You **MUST stir satin finish coating well for 5 to 10 minutes** before applying because the flattening agent in the coating will have settled. Failure to stir thoroughly before you start and frequently while applying the satin coating may result in an uneven streaky finish.
- **NEVER thin the coating** with any type of solvent as the coating will fail.
- You can pour some of the coating into a clean and dry, metal or glass/ceramic container. If you are using a plastic vessel you must line it with two layers of aluminium foil as the coating will melt the plastic if left to dwell inside it.

6. **PERSONAL PROTECTION**

Allow for adequate ventilation. Only use nitrile powder-free gloves or chemical resistant gloves as rubber gloves become sticky. Wear eye protection. Allow for adequate ventilation. If spraying with an HVLP or airless sprayer, use a NIOSH respirator.

7. **PROTECT ASPHALT, CONCRETE OR OTHER SURFACES**

Asphalt needs to be protected; the solvent in the coating will harm the asphalt if spilled. Put a tarp down for protection. The coating will not harm concrete but it will cause it to look shiny.

8. **COATING APPLICATION**

The surface to be coated must be scrupulously clean, sterile and bone dry; and had just been solvent wiped immediately before applying the first coat. There is no preparation needed between coats. Application of the coating is best applied in temperatures between 13 - 30 degrees °C and without humidity. **Do NOT apply coating to very cold or to very hot metal surfaces.** If the surface is too cold the coating may sag as it will take too long to start to flash off. If the surface is too hot then it will flash off too quickly as it needs time to self-level. **Do NOT apply if the temperature is within 10 degrees Fahrenheit of the dew point.**
Access dew point information for your area on **weather.com**

APPLICATION METHODS: The applicator tool used is a matter of preference but is usually project dependent.

- **For narrow profiles** Use a sponge brush, sponge wedge or compatible synthetic brush (as supplied in the kits) or a good quality natural-bristled paint brush. Dip brush completely in the coating. Lightly tap the side of the paint brush on the side of the container. The brush should be full of coating but not dripping. Never use pre-used old paint brushes as streaking will always appear due to paint residue.
- **For wide areas, round banisters etc.** Use our clear-coat round applicator pad (as supplied in the medium/large kits) Wear a powder-free nitrile glove and submerge the pad completely in the coating. Gently squeeze the excess from the pad so that it stops dripping but still remains completely saturated. It is important to be saturated as dry areas in the applicator pad will cause streaks. Apply the coating letting the pad glide smoothly across the surface. Do not press hard. When it starts showing resistance, dip the pad completely again**.** Do NOT use circular motions to apply the coating. Use a smooth motion and finish each section at a time. You can also use a dense microfibre roller or hi density foam roller (suitable for solvent based coatings) available from the hardware store.
- **If spraying** use an HVLP or Airless paint sprayer with a fine-finish tip. Aerosols (attachment systems) are not recommended for large, flat surfaces but they can be used for intricate items or jewellery chains.
- **Dipping** Small items can also be dipped into the coating and hung to dry.

Observe the coating while applying: Observe for runs, drips, or sagging and simply smooth them out before the coating starts to dry within a couple of minutes. Let the coating dry completely. It will self-level as it dries. Do NOT overwork the coating. If after a few minutes you see an area you missed, let it dry completely and then coat over the missed area. Wait at least one to two hours between coats or until the previous coat is completely dry.

If the coating separates or does not look completely smooth; **STOP** and remove the wet coating with meths immediately. (**Use Xylene Solvent if the coating has dried**) Then re-clean the surface properly. Other chemicals present on the surface can cause separation and need to be removed completely. Then dry the surface completely and solvent wipe again before applying the coating.

APPLY THE RECOMMENDED NUMBER OF COATS: Refer to the table next page and for tips on how to apply second and subsequent coats. **When applying second or subsequent coats it is important to move the applicator tool in ONE DIRECTION ONLY and leave it alone to dry**.

CURE TIME: Heat and air circulation hastens curing. Under normal circumstances and with good ventilation the coating will be well cured after 4 to 5 days. However the coating is delicate until fully cured, which can take up to 3 to 4 weeks depending upon the number of coats applied. You can shorten cure time by gently heating the coating AFTER it is dry to the touch. Smaller items can be placed in a low temperature oven (60°C - 80°C) for 1 hour and will be cured when cooled.
The coating **MUST** be fully cured before prolonged contact with other surfaces; e.g. packaging, allowing water to sit on the coated surface, immersing in water or filling fountains, etc. In most cases, dew or rain does not hurt the coating once it is dry for 3 to 4 hours. **But do NOT allow water to pool on the surface of the coating for a minimum of two weeks after coating.**

HEAT RESISTANCE: Once cured the coatings are heat resistant up to 260 - 285 degrees centigrade. The coatings will gas off at about 350 degrees centigrade.

FOODSAFE: Once cured items coated with **ProtectaClear®** and **CrobialCoat®** are food safe.

AFTER CARE OF COATED SURFACES: Do **NOT** use solvent or citrus based cleaners or abrasives or cleaners with *petroleum distillates* to clean the coated metal. **Suggested Cleaner:** Mild dish soap and water.

MAINTENANCE & LONGEVITY: Once coated the coating is easy to maintain. As long as the original coating is still intact, wash the surface with a mild soap and water, dry well, and recoat. It is best to recoat before any tarnish or oxidation is seen or at the first sight of discolouration. The longevity of the coating (and time between subsequent maintenance recoats) is dependent on metal quality, proper surface preparation, coating application, number and thickness of initial coats, the environment and general use and abuse.
Maintenance - Stainless Steel: Refer Project Specific Tips Page 4

TOOLS CLEAN UP: Clean the thread of the coating container and lid/cap with methylated spirits before reattaching the lid/cap. Rollers, sponge brushes and sponge wedges are usually discarded after a project is completed because you cannot clean them successfully with xylene solvent. HOWEVER they will last for a while when wrapped well in aluminium tinfoil to stop them from becoming hard while waiting for coats to dry, during breaks or for a few days/weeks between projects. Wrap bristle brushes in foil during breaks too. **Bristle brushes and spray tips can be thoroughly cleaned with Xylene solvent.**

WET COATING REMOVAL: Wet coating that has not dried or cured can be cleaned up quickly with methylated spirits.

DRIED & CURED COATING REMOVAL: Cured coating can be removed from unpainted metals with solvents like Xylene or a Xylene substitute or they can be removed mechanically by sanding for larger areas like copper roofs. Small items can be soaked in solvent. Wear personal protection. Wet a cloth or paper towels with the solvent completely. Move the wet cloth over the coated metal with light pressure. Rubbing hard is not advised. When the coating begins to 'melt' wipe it up and off of the surface. Repeat until the coating is gone.

RECOMMENDED NUMBER OF COATS

Everbrite, **ProtectaClear** and **CrobialCoat** coatings are self-annealing; meaning the second and subsequent coats will become part of the previous coat. Wait at least 90 minutes between coats or until the previous coat is completely dry. There is no preparation needed between coats. Most projects require two coats, some need more. Refer to the table below for recommended number of coats.

When applying a second or subsequent coat it is important to move the applicator tool in ONE DIRECTION ONLY and leave it alone to dry. Do NOT move your paint brush, applicator pad, or roller backwards and forwards as this will drag on the previous coat as it quickly melts into the previously applied coating whether it is just dried or fully cured.

Environs	*Surface*	**Item Description** (Recommended number of Coats)	**Coating Type**
INDOORS	**Highly Polished Bare Metals** • *Brass* • *Bronze* • *Copper* • *Silver* • *Stainless Steel* • *Aluminium*	• Railings, Bannisters (2) • Doorknobs (2) Kick Plates (3) • Kitchen Sinks (4) Bathroom Sinks (2) • Kitchen Splashbacks (2) Range Hoods (2) • Counters, Bench Tops, Bar Tops, Table Tops (3 to 4) • Tapware and Plumbing Fittings (2) • Ornamental – Low Handling (1+) *	ProtectaClear or CrobialCoat * Everbrite can be used for items not subject to abuse
INDOORS	**Stainless Steel** • *Stainless Steel*	• Kitchen Appliances, Hoods: (1) • Bannisters, Railings, Fittings (2)	ProtectaClear or CrobialCoat
INDOORS	**Steels** • *Corten, Rusted Metals* • *Mild Steel* • *Raw, Cold Rolled* • *Zinc* • *Galvanised*	• Rusted Metals (3+) Refer Rust transference testing • Mild Steels, Zinc (2+) • Galvanised (2)	Everbrite
OUTDOORS	**Bare Metals** • *Brass* • *Bronze* • *Copper*	• Brass fittings – Low handling (2) • Bronze (2) • Copper Roofing (2 to 3) Copper Spouting (2 to 3) • Copper Fittings (2 to 3)	Everbrite
OUTDOORS	**Stainless Steel /Aluminium** • *Stainless Steel* • *Aluminium*	• Bannisters, Railings, Fittings (2)	ProtectaClear
OUTDOORS	**Steels** • *Corten* • *Rusted Metal* • *Mild Steel* • *Raw, Cold Rolled* • *Zinc* • *Galvanised*	• Rusted Metals (4+) Refer Rust transference testing • Mild Steels, Zinc (3+) • Galvanised (2)	Everbrite
MARINE	**Stainless Steel** • *Stainless Steel*	• Bannisters, Building Cladding, Fittings (3) • Boat Superstructure above waterline (3) • Boat Hulls Moored (4)	ProtectaClear
MARINE	**Brass/Bronze** • *Brass* • *Bronze*	• Highly Polished Fittings (4) Use Protectaclear • Highly Handled Items (4) Use Protectaclear • Low handled Items (2 to 3) Use Everbrite	Everbrite or ProtectaClear
MARINE	**Gelcoat/Fibreglass/Aluminium** • *Gelcoat/Fibreglass* • *Aluminium*	• Trailer boats (2) • Boat Superstructure above waterline (2) • Boat Hulls Moored (3)	Everbrite
WALKABLE SURFACES	**All Metals** • *NOTE: Requires constant maintenance/upkeep*	• Pedestrian Traffic, Steps, Bridges (Various) • Checker Plate (3 to 4) • Mild Steels (4) • Rusted Steels (5+) Refer Rust transference testing	Everbrite in a domestic environment only
JEWELLERY ORNAMENTS	**All Metals** • *Bras ,Bronze, Copper* • *Silver, Pewter* • *Other metals*	• Jewellery (3 to 4) • Ornaments (1 to 2)	ProtectaClear or CrobialCoat
INDOORS FORMICA HARD PLASTICS	• *Formica* • *Hard Plastics*	• Table Tops, Bench tops (2 to 3) • Light switches, buttons (1 to 2)	ProtectaClear or CrobialCoat

For antimicrobial protection only, apply one coat of Crobial Coat.
For antimicrobial protection plus protection from tarnish, oxidation and elements, two or more coats as recommended above of CrobialCoat.

DANGER: COATING IS HARMFUL OR FATAL IF SWALLOWED.

FIRST AID In case of eye contact, flush thoroughly with plenty of water for 15 minutes and get medical attention. Reports have associated repeated and prolonged over-exposure to solvents with damage to health. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

CAUTION Combustible liquid. Material does not sustain combustion. Do not smoke or use near flame. Use with adequate ventilation. Avoid continuous breathing of vapour/spray and avoid prolonged contact with skin. Wear nitrile gloves and eye protection.

KEEP OUT OF REACH OF CHILDREN

Please read and follow all directions and cautions on packaging and on the Material Safety Data Sheet.

COVERAGE PER COAT FOR SMOOTH METALS

KitNames	Coating mL	Square Metres ≤
PCK30	29	0.5 to 0.6
EBK60	60	1.0 to 1.2
PCK/EBK 120	118	2.3 to 2.5
PCK/EBK 250	250	4.8 to 6.0
PCK/EBK 480	473	9.2 to 11.5
PCK/EBK 960	946	18.4 to 23
PCK/EBK 3840	3,780	75 to 92

NOTE: Mild Steels are more porous than smooth metals; and can take up over 50% more coating for the first 1 to 2 coats.

Project Specific Tips

COPPER: If there is a high mineral content in the water, use distilled water to avoid discolouration from water mineral components. Copper Cleaning Gel is available for heavily tarnished copper. If using the gel, see the Copper Cleaning Gel directions.
Copper roofs: Polish is not recommended for older tarnished copper roofs due to the roughness of the metal. Polish gets stuck in the rough areas and cannot easily be removed.

SINKS AND WATER FEATURES: Avoid pooling water, filling with water, or pouring boiling water in the sink for a minimum of two weeks after coating. Sinks may take longer to cure. A deep sink does not get much air circulation. A hairdryer or heated fan can be used every so often to introduce heat and circulation to the area after it is coated to speed curing.

STAINLESS STEEL: Many stainless steel cleaners contain silicone. Silicone residue must be removed before applying the coating. Silicone is a common coating agent which can be removed with mineral spirits (mineral turpentine). The turps must then be cleaned off and then a solvent wipe (See Step 4) is still needed before coating application.

- Faux stainless steel appliances are not suitable for our coatings due to the plastic nature of the material.
- Stainless Steel (where rust needs to be removed): Stainless Steel Rust Remover and our fine grade synthetic steel wool Prep Pads are excellent for removing rust. (Do not use regular steel wool.) See the specific Rust Remover directions first.
  Rusty stainless can be wet sanded with fine 600-2000 grit automotive sand paper. Always clean and sand with the grain.

Maintenance Watch for any sign of rust or tea staining; which will indicate that the surface needs recoating. Or there may have been pin pricks in the coating caused by bubbles in the coating or a peak protruding through if the stainless is textured and not smooth. Oxygen will allow rust under the coating if trapped in miniscule pits or craters. To fix the stainless steel:

1. Wipe off surface dirt or dust with a damp (with water) cloth.
2. Apply more coating to the area and let it dwell until it starts to 'melt' into the previously cured coats.
3. Rub off the rust with a lint-free cloth that has been dipped in coating. The rust will come off onto the cloth.
4. Allow the coating to dry to the touch.
5. Recoat the metal again to ensure enough coating is on the surface to protect the substrate.

JEWELLERY: Jewellery items due to their size can be brushed, dipped or sprayed and it is best to **bake cure** them. Once the coating has fully dried small items can be placed in a low temperature oven (60°C - 80°C) for 1 hour and will be cured once cooled.

- Brushing: Lay your items on aluminium tinfoil and brush ProtectaClear on with a natural-bristle brush or a sponge-brush. Gently glide the brush over the surface without getting too much excess on the foil. After an hour you can apply the 2nd coat. If you want to coat the other side of the piece, wait at least 2 hours before turning it over to coat the other side (use a new piece of foil to coat the other side on to avoid any wet coating sticking to the dry side) We recommend coating the back side of the piece first.
- Dipping: Place a piece of aluminium foil or something under the items in case of drips. You can insert an unbent uncoated paper clip through the eye of your jewellery piece to dip it or use a skewer stick and balance the stick across an ice cream container to catch the drips.
  Dip the piece in the coating, and then pull it up. Let the coating drip for a few seconds. It is helpful to have a small artist's paintbrush to brush off the excess coating that may gather at the bottom and around the hanger. Hang the item to dry where it isn't touching anything else. Make sure to check the item after a couple of minutes, to see if any excess coating has gathered at the bottom. Once the piece has dried for at least an hour, and is dry to the touch, you can apply the 2nd coat. Dip the item, smooth out the excess, and let it dry.
- Spraying: Hang the item and spray. You should be 15cm inches away when spraying. Do not over spray; a quick pass is sufficient for each coat. Apply 2nd coat after 1st coat is dry to the touch, at least an hour.
- Aerosols (attachment systems) are not recommended for large, flat surfaces but they can be used for intricate items or jewellery chains.