

APPLICATION INSTRUCTIONS

For product data description refer to the product data sheet

HEMPEL'S SHOPPRIMER ZS 1589₀

HEMPEL'S LIQUID 99751

Scope:

These Application Instructions cover surface preparation, application equipment, and application of HEMPEL'S SHOPPRIMER ZS 1589.

Surface preparation:

a. Prior to abrasive blast cleaning of the steel, remove oil and grease and other contamination with a suitable detergent, followed by high pressure fresh water hosing.

b. Abrasive blasting to Sa 2½, ISO 8501-1: 1988, SSPC-SP-10.
The abrasives must be capable of developing a surface profile equivalent to Rugotest No. 3, N9a to N10a (Ra = 6-12.5 micron/1/4-1/2 mil), Keane-Tator Surface Comparator, 2-3 mils segments (average maximum peak to valley roughness 50-75 micron/2-3 mils), or ISO Comparator, Medium (G,S).

Note: In case of abrasive blasting with shot instead of grit the resulting surface profile will give lower adhesive values and thereby reduced mechanical properties of the coating. Recoating with heavy-duty systems such as HEMPADUR qualities can then generally be recommended only after a very thorough abrasive gritsweeping. Also for recoating with zinc silicates such as GALVOSIL 1570 a thorough abrasive grit sweeping is mandatory to give the required surface profile.

c. When the abrasive blasting is completed, remove all grit and dust by vacuum cleaning.

Note: As abrasive blasted surfaces will rust rapidly, HEMPEL'S SHOPPRIMER ZS 1589 must be applied immediately after the abrasive blasting and de-dusting. If re-rusting occurs, re-blasting is necessary.

Application equipment:

HEMPEL'S SHOPPRIMER ZS 1589 can be applied by conventional spray equipment (pressure pot type only), airless spray equipment and brush.

Conventional spray equipment:

Standard industrial spray equipment with mechanical agitator, pressure regulator, air filters, and water traps.

Pot pressure: 2.5-5 bar (35-75 psi)
Atomizing pressure: 1.5-2.5 bar (20-35 psi)
Air hose: 10 mm (3/8") internal diameter
Material hose: 13 mm (1/2") internal diameter

(Spray data are indicative and subject to adjustment).

Note: The hoses should be as short as possible, preferable not longer than 10 metres/35 feet. Place the pressure pot at the same level as or at a higher level than the spray gun when spraying, owing to the weight of the paint.

The pressure pot may advantageously be replaced by a piston pump with a low ratio of pressures.

In case of application stops, if possible re-circulate the paint through the hoses to avoid settling.

Clean all equipment promptly after use with the THINNER used.

Leave THINNER in the hoses when the equipment is not in use.

Airless spray equipment:

A large, slow-working, piston pump is recommended.

Gaskets:	Teflon
Nozzle orifice:	.019" through .023"
Fan angle:	65° through 80°.
Nozzle pressure:	80 bar (1200 psi).

(Spray data are indicative and subject to adjustment).

Note: During application stops, if possible re-circulate the paint through the hoses to avoid settling.

Clean all equipment promptly after use with the THINNER used.

Leave THINNER in the hoses when the equipment is not in use.

Mixing:

- Do not open packings until immediately before use. The entire content of the two packings must be used for each batch to ensure a correct mixture. Left-overs in the packings cannot be used later.
- Before mixing, shake or stir the liquid very thoroughly.
- Mix only in the proportions supplied. Do not vary or sub-divide.
- Pour the liquid slowly into the zinc paste with constant mechanical stirring. Do not mix in the reverse order. Continue stirring until the mixture is free of lumps.
- Strain the mixture through a screen, 60-80 mesh (250-160 DIN Norm. 4188).
- For use in automatic shoppriming plants, adjust the mixture to a viscosity of 15-18 sec/DIN 4 or equal with the prescribed thinner.

Thinning:

Dilute the mixed product only.

For airless spray application, add maximum 30% of thinner.

For conventional spray application, add maximum 30% of THINNER.

For touch up by brush, add maximum 15% of THINNER.

Note: THINNER 0857 has a very fast flash-off which makes it suitable at low temperatures but gives risk for dry-spray at high temperatures. THINNER 0857 is generally not recommended for conventional spray application.

THINNER 0870 has a relative slow flash-off with good film formation at high temperatures but slower drying at low temperatures.

If application takes place at high temperatures, ie 40-55°C/104-131°F, a special THINNER 0874 with even lower flash-off than THINNER 0870 should be used. Correct selection of thinner is dependent on the actual application conditions.

Pot life:

8 hours at 20°C/68°F in a tightly closed container.

Note: Prepare only the quantity that can be used within this period. Maintain constant agitation until the batch is depleted. After expiration of the pot life the mixture must not be used even if it may appear to be unchanged.

Application:

The coating must be wet and smooth just after application. Avoid dry-spray and excessive film thicknesses, which especially may be encountered at manual spray application.

Micro climate:

Steel temperature: min 0°C/32°F, max . approximately 55°C/131°F.

Note: The temperature should be a few degrees above the dew point to avoid condensation. At the freezing point beware of ice on the surface.

For application beyond the stated intervals contact HEMPEL for guidance.

Drying time:	<p>Dry to handle in 3-4 minutes at 20°C/68°F and sufficient ventilation in 15 micron/0.6 mil dry film thickness.</p> <p>Note: These figures apply when the temperature of the steel does not differ appreciably from that of the surroundings.</p> <p>Plates can be transported or stacked as soon as dry to handle.</p> <p>Processing is only recommended when fully cured.</p>
Curing time:	<p>Dependent on temperature and humidity. Relative humidity: min. 50%, preferably above 65% Min. temperature for curing is 0°C/32°F. At 20°C/68°F and min. 75% relative humidity the coating will be fully cured in 4 days.</p> <p>At low humidities, curing can be promoted by hosing down the surface with water 24 hours after application and by keeping the surface constantly wet until curing is complete.</p> <p>Complete curing can be checked by rubbing the coating with a rag soaked in THINNER 0870 used. If the coating remains unaffected, the curing is complete.</p>
Recoating interval:	HEMPEL'S SHOPPRIMER ZS 1589 must be fully cured before recoating.
Recoating:	<p>Remove oil and grease, dirt, etc. with suitable detergent followed by fresh water hosing. Remove weld spatters. Damaged areas, burns, etc. to be cleaned by rotary wire brushing, by disc grinding, by abrasive sweeping, or by abrasive blasting according to specification and touch up with the primer of the coating system proper. In case of "white rust" on intact surfaces, it is recommended to clean by fresh water hosing and scrubbing with stiff brushes.</p> <p>It is risky to make a general cleaning of the exposed surface by grinding, and especially by wire-brushing as this process easily tends to give a smooth, polished surface to which the adhesion of following coats usually will be reduced.</p> <p>In any case abrasive grit sweep the entire surface if the subsequent coat is GALVOSIL 1570 or similar, or if the shopprimer is polished (smooth) and the following paint system will be exposed to aggressive environments during service.</p> <p>Especially if the paint system will be exposed to heavy wear - for instance a MULTI-STRENGTH-system - a very thorough abrasive grit sweeping is recommended, in severe cases a full reblasting.</p> <p>Removal of dust is mandatory before recoating.</p>
Safety precautions:	<p>Keep away from open flame and sparks. Avoid prolonged breathing of solvent vapours. Use with adequate ventilation. In confined areas, observe usual precautions to prevent fire and damage to health. Use air masks, safety goggles and working gloves. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of (liquid) soap and water.</p>

This Product Data Sheet supersedes those previously issued. For definition and scope, see explanatory notes to applicable Product Data Sheets.

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