

# HEMPEL'S SHOPPRIMER ZS 1589<sub>0</sub>

HEMPEL'S LIQUID 99751

<b>Description:</b>	HEMPEL'S SHOPPRIMER ZS 1589 is a two-component, low-zinc, solvent-borne ethyl silicate shopprimer, designed for automatic spray application. Especially suited, where welding (MIG/MAG) and gas-cutting properties are of importance.
<b>Recommended use:</b>	For short to medium-term protection of blastcleaned steel plates and other structural steel during the storage, fabrication, and construction periods.
<b>Approvals, certificates:</b>	Approved as a welding primer by Lloyd's Register of Shipping, American Bureau of Shipping, Det Norske Veritas, Germanischer Lloyd, Korean Register of Shipping, and Bureau Veritas and RINA, Italy.
<b>Availability:</b>	Subject to confirmation.

## PHYSICAL CONSTANTS:

Colours/Shade nos:	Reddish grey/19890	Grey/19840
Finish:	Flat	Flat
Volume solids:	25%	26%
Theoretical spreading rate:	See REMARKS overleaf	See REMARKS overleaf
Flash point:	5°C/41°F	5°C/41°F
Specific gravity:	1.3 kg/litre - 10.8 lbs/US gallon	1.3 kg/litre - 10.8 lbs/US gallon
Dry to handle:	3-4 minutes at 20°C/68°F	3-4 minutes at 20°C/68°F
Fully cured:	4 days at 20°C/68°F (75% RH)	4 days at 20°C/68°F (75% RH)
V.O.C.:	620 g/litre - 5.15 lbs/US gallon (According to EPA Fed Ref Method 24)	620 g/litre - 5.15 lbs/US gallon (According to EPA Fed Ref Method 24)

Shelf life: 6 months from time of production (25°C/77°F).  
Shelf life is dependent on storage temperature. Shelf life is reduced at storage temperatures above 25°C/77°F. Do not store above 40°C/104°F or below 5°C/40°F. Shelf life is exceeded if the liquid is gelled or if the mixed product forms gels before application.

*The physical constants are subject to normal manufacturing tolerances.  
Further reference is made to "Explanatory Notes" in the Hempel Book.*

## APPLICATION DETAILS:

Mixing ratio for 15890:	Base 15899 : Liquid 99751 2 : 3 by volume
Application method:	Airless spray      Air spray      Brush (touch-up)
Thinner (max.vol.):	0857 or 0870 (30%)    0870 (30%)      0857 or 0870 (15%) (See REMARKS overleaf)
Pot life:	8 hours (20°C/68°F) (Closed container, constant stirring)
Nozzle orifice:	.019"-.023"
Nozzle pressure:	80 bar/1200 psi (Airless spray data are indicative and subject to adjustment)
Cleaning of tools:	THINNER 0857 or 0870
Indicated film thickness, dry:	15 micron/0.6 mil (See REMARKS overleaf)
Indicated film thickness, wet:	Not relevant
Recoat interval, min:	When fully cured
Recoat interval, max:	None (See REMARKS overleaf)

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## 2. HEMPEL'S SHOPPRIMER ZS 15890

SURFACE PREPARATION:	Remove oil and grease with suitable detergent. Abrasive blasting to minimum Sa 2½, SSPC-SP-10, with a surface profile equivalent to Rugotest No. 3, min. N9a, Keane-Tator Comparator, 2 mils segments, or ISO Comparator Medium (G,S). For special purposes gritblasting is necessary.
APPLICATION CONDITIONS:	The surface must be completely clean and dry with a temperature above the dew point to avoid condensation. Minimum steel temperature 0°C/32°F, max. approximately 55°C/131°F: Curing: Minimum temperature for curing 0°C/32°F, minimum 50%, preferably above 65% relative humidity. Consult separate APPLICATION INSTRUCTIONS.
SUBSEQUENT COAT:	As per specification.
REMARKS: Film thicknesses and theoretical spreading rates:	On steel abrasive blasted to a profile Ra = 12½ micron (½ mil), equivalent to Rugotest No. 3, N10a-b, or Keane-Tator Comparator, 3 mils segments, the indicated 15 micron/0.6 mil film thickness corresponds to approx. 25 micron/1 mil measured on a smooth test panel (see special instructions for this procedure). The corresponding "theoretical" spreading rate will be 10.0 m²/litre (401 sq.ft./US gallon) (reddish grey shade 19890). On steel abrasive blasted to a profile Ra = 6.3 micron (1/4 mil), equivalent to Rugotest No. 3, N9a, or Keane-Tator Comparator, 2 mils segments, the indicated 15 micron/0.6 mil film thickness corresponds to approx. 20 micron/0.8 mil measured on a smooth test panel (see special instructions for this procedure). The corresponding "theoretical" spreading rate will be 12.5 m²/litre (501 sq.ft./US gallon) (reddish grey shade 19890). The shopprimer should be applied in a uniform film thickness. Avoid dry spray and exaggerated film thicknesses. Depending on requested protective lifetime the dry film thickness may be varied. Minimum is approximately 10 micron/0.4 mil, maximum 20 micron/0.8 mil as specified on a blasted surface.
Thinning:	Selection of proper thinner is related to application conditions. At high temperatures, a special THINNER 0874 with a very slow flash-off may be used - please consult separate APPLICATION INSTRUCTIONS.
Curing:	Curing time is prolonged at relative humidity below 75%.
Recoating:	No maximum recoating interval for adhesion, but dictated by gradual breakdown and damage during exposure and fabrication. Regarding treatment before recoating, please consult the APPLICATION INSTRUCTIONS.
Shelf life:	If shelf life is exceeded, it is usually possible to use the zincpaste (BASE), if any settling can be remixed. The LIQUID may be used provided it shows no signs of turbidity, but pot life will be reduced. In any case, surpassing of storage time will be of 1-2 months maximum (20°C/68°F) for the LIQUID.
Note:	<b>HEMPEL'S SHOPPRIMER ZS 1589 is for professional use only.</b>
SAFETY:	Handle with care. Before and during use, observe all safety labels on packaging and paint containers, consult HEMPEL Material Safety Data Sheets and follow all local or national safety regulations. Harmful or fatal if swallowed; immediately seek medical assistance if swallowed. Avoid inhalation of possible solvent vapours or paint mist, as well as paint contact with skin and eyes. Apply only in well ventilated areas and ensure that adequate forced ventilation exists when applying paint in confined spaces or when the air is stagnant. Always take precautions against the risks of fire and explosions.

This Product Data Sheet supersedes those previously issued. For definition and scope, see explanatory notes to applicable Product Data Sheets. Data, specifications, directions and recommendations given in this data sheet represent only test results or experience obtained under controlled or specially defined circumstances. Their accuracy, completeness or appropriateness under the actual conditions of any intended use of the Products herein must be determined exclusively by the Buyer and/or User. The Products are supplied and all technical assistance is given subject to HEMPEL's GENERAL CONDITIONS OF SALES, DELIVERY AND SERVICE, unless otherwise expressly agreed in writing. The Manufacturer and Seller disclaim, and Buyer and/or User waive all claims involving, any liability, including but not limited to negligence, except as expressed in said GENERAL CONDITIONS for all results, injury or direct or consequential losses or damages arising from the use of the Products as recommended above, on the overleaf or otherwise.

Product data are subject to change without notice and become void five years from the date of issue.

Issued by HEMPEL'S MARINE PAINTS A/S.

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