

68180: BASE 68189 with CURING AGENT 68186

For product description refer to product data sheet 68180

- Scope:** These Application Instructions cover surface preparation, application equipment and application details for TAPECRETE MARINE COATING 68180.
- The following rules are intended for maintenance of eg ballast tanks, potable water tanks and cofferdams and may be supplemented with more detailed descriptions when necessary.
- Description:** TAPECRETE MARINE COATING 68180 is a high solids, light-coloured, water-borne cementitious coating. It is supplied in two parts: a dry mix with a maximum grain size of 0.5 mm, TAPECRETE MARINE COATING DRY MIX 68186, and a water-borne acrylic dispersion, TAPECRETE LIQUID 68189.
- Recommended use:** TAPECRETE MARINE COATING 68180 is intended for areas such as ballast tanks, cofferdams and potable water tanks under conditions where application of traditional paint coatings is difficult. TAPECRETE MARINE COATING 68180 is applicable and cures under humid conditions. The cured coating is mechanically robust.
- Storage:** TAPECRETE LIQUID shall be stored at all times in closed cans/containers. It must be kept at temperatures above the freezing point, ie. above 1°C/34°F and below 40°C/104°F.
- Handle and store materials carefully in order to prevent damage, deterioration and influence of adverse weather conditions.
- Store TAPECRETE MARINE COATING DRY MIX 68186 in a dry place. The properties remain unchanged as long as the dry mix is flowing free and without lumps.
- Before mixing, the temperature of all material ingredients must be between 10-30°C/50-84°F.
- Surface preparation:** Remove all oil, grease, mud and similar contaminants with a suitable detergent followed by high pressure fresh water hosing.
- Remove rust and scale corresponding to minimum Sa 1 or St 2, ISO 8501-1:1988. **Be sure to remove rather than polish possible scale. Insufficient surface preparation will result in later flaking.**
- The existing coating must be well adhering, ie it must not be removable by lifting with a blunt putty knife and any degraded surface layer must be removed. Existing epoxy or coal tar epoxy system must be uniformly matted by grinding or abrasive sweep blasting - otherwise flaking will occur.
- Grit blasting to Sa 2, ISO 8501-1:1988 will improve the long-term performance of the coating.**
- Water jetting or wet abrasive blasting can be used for surface preparation.
- Application equipment:** TAPECRETE MARINE COATING 68180 can be applied by brush, roller or spray.
- Whiting brushes and lamb's wool rollers are suitable for applying the material in approximately 0.5 mm/20 mils dry film thickness per coat.
- The following equipment is recommended for spray application of TAPECRETE MARINE COATING 68180:
- Worm pump like:
Putzmeister TS 3 equipped with Putzmeister plastic spray gun model 071473.006 and 25 mm/1" material hose. Air pressure: 2-3 bar at minimum 800 litres/minute air capacity.
 - Putzmeister Sprayboy RMP 700 with Putzmeister plastic spray gun model 071473.006.
 - Length of hoses should not be more than 60 m/200 yards.
- For small jobs or for stripe coating:
Putzmeister hopper gun model 001405.002
- Application requires good workmanship especially spray application.**

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Application by airless spray is not suitable.

Cleaning of equipment: Tools must be cleaned with fresh water immediately after use. Cured TAPECRETE MARINE COATING 68180 can only be removed by mechanical means.

Mixing: **The following mixing procedure must be strictly followed in order to obtain correct viscosity, to avoid settling in hoses and to avoid a too short pot life:**

- Stir TAPECRETE LIQUID 68189 thoroughly before removal from the container. This is of special importance when the liquid is supplied in 200 litres drums or if only a part of the can is used.
- Place TAPECRETE LIQUID 68189 in a mixing container and slowly add TAPECRETE MARINE COATING DRY MIX 68186 to the liquid under good agitation using a standard mortar paddle mixer or a slow speed spiral type power mixer ("Jiffy" mixer). Use 5 litres/5.2 kg TAPECRETE LIQUID for spray application (total 13.8 litres/3.6 US gallons) and 6 litres/6.25 kg for brush application (total 14.8 litres/3.9 US gallons) for each 25 kg/55 lbs TAPECRETE MARINE COATING DRY MIX 68186.
- Mix until the material is smooth and free of agglomeration, typically 5 minutes. Avoid entrapping air during mixing.
- Allow the mix to prereact for approximately 10 minutes then REMIX.** A possible adjustment of viscosity must be done with TAPECRETE LIQUID 68189 - **do not use water**. The correctly mixed material does normally not require adjustments, however, at high temperatures, addition of up to 10% TAPECRETE LIQUID 68189 may be required. **Re-mixing is a must in order to keep suitable viscosity.**
- Use all mixed paint before the pot life is exceeded. The pot life depends on the temperature of the paint as shown in the table below.

Pot life:

Temperature of mixed paint	10°C/50°F	20°C/68°F	30°C/86°F
Pot life* shade 11670	6 hours	3 hours	1 hour
shade 11630	6 hours	3 hours	30 minutes**

*Pot life is very dependent on correct mixing, see above. **Insufficient mixing will reduce the pot life drastically.**

**When mixing add 10% TAPECRETE LIQUID 68189 (ie ½ litre/0.5 kg (0.13 US gallon/0.23 lbs) per 25 kg/55 lbs TAPECRETE MARINE COATING DRY MIX 68186.

If the wet mix is left in the mixer or container for a period longer than 30 minutes remix at least 2 minutes before use.

Application: TAPECRETE MARINE COATING 68180 is normally specified in two coats.

Fresh water tanks: 2 coats, each 0.5 mm/20 mils minimum.

Ballast tanks: 2 coats, each 0.75 mm/30 mils minimum.

Apply the first coat immediately after surface preparation. The second coat can be applied after 2-3 hours depending on temperature and humidity. The recoat interval is correct when application of the second coat does not mechanically damage the preceding coat. If this condition is not obtained within 2-3 hours, the tank must be ventilated.

The final coating must appear uniform.

Edges, rough welds and areas difficult to spray apply or with too low film thickness should finally receive stripe coat(s).

Micro climate: Actual climate conditions at the substrate **during application and curing:**

Minimum surface temperature 10°C/50°F.

Maximum surface temperature preferably below 30°C/84°F.

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In the case of higher temperatures, keep the material cool by storing it in a shaded area out of sun exposure or by keeping in refrigerated or cool enclosures. Application during night hours is recommended.

Relative humidity may be close to 100%, **but in confined spaces such as ballast tanks, supply adequate fresh air to assist evaporation of the water from the coating.**

Drying and curing:

After application, allow for setting for 1-2 hours at 10-30°C/50-84°F. Do not expose the coating to water during this period. A possible floating (smoothening of the surface) during this period must be carried out with TAPECRETE liquid 68189, **not water**.

After 24 hours at temperatures above 10°C/50°F, the coating will resist exposure to potable water.

Before taking the tank into use for drinking water, fill the tank twice with fresh water, each time for a period of not less than 24 hours, and finally flush with fresh water.

A fresh-water wash is required before exposure to seawater. The following procedure is recommended:

- a. Hose down with fresh water 24 hours after application.
- b. Leave the water in the tank to keep all surfaces moist for 2 more days.
- c. Hose down with fresh water 3 days after application.

Alternatively, ballast tanks could be filled with fresh water 24 hours after application and remain filled for two more days before filling with seawater.

The correctly applied coating is hard and shows no chalking or loose surface layer.

Application conditions: Each layer must be applied homogeneously and as close to the specified 0.5-0.7 mm/20-28 mils as possible. It is advisable to paint an area corresponding to the volume of the mixed paint: The theoretical consumption is approximately 0.5 litres/1.1 kg per m² in 0.5 mm dry film thickness. The practical consumption will depend on the structural design of the area to be treated and the application technique.

Repairs:

Preferably, carry out touch up before the coating has been exposed to ballast water or contaminants. Grind the area to be repaired including feathering of intact coating and apply TAPECRETE MARINE COATING 68180 to a minimum thickness of 1 mm/40 mils.

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. Avoid inhalation, avoid contact with skin and eyes, and do not swallow. Take precautions against possible risks of fire or explosions as well as protection of the environment. Apply only in well ventilated areas.

Issued by:

HEMPEL A/S - 68180

These Application Instructions supersede those previously issued.

For explanations, definitions and scope see "Explanatory Notes" available on www.hempel.com. 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.