

TEKNODUR COMBI 800-500

Polyurethane paint

TEKNODUR COMBI 800-500 is a two-pack, fast drying semigloss polyurethane paint containing zinc phosphate. The hardener is an aliphatic isocyanate resin.



Intended for painting steel and galvanized surfaces used in environments with C2 and C3 corrosivity categories. Can be used as a topcoat in epoxy – polyurethane systems exposed in urban and industrial atmosphere.

High decorative, semigloss coating, good adhesive to substrate with good mechanical properties. Resistant to weathering, sun radiation, temporary action of salt and alkali solutions, thinned acid solutions and petroleum products.

The use of suitable Polyurethane Varnish from the TEKNODUR series is recommended on objects when the topcoat is required to have excellent gloss and colour retention. If additional antigraffiti protection is required, the use of TEKNODUR 295-901 Antigraffiti or TEKNODUR 0290-19 is recommended.



TECHNICAL DATA

Fields of application	Steel constructions
Recommended substrate	Steel, Zinc
Binder	Polyurethane
Solids	66±2% by volume (ISO 3233)
Total mass of solids	Approx. 1000 g/l
Volatile organic compound (VOC)	Approx. 320 g/l (DIRECTIVE 2010/75/EU)

The VOC value provided is the average value for factory produced products, and consequently it will be subject to variations between individual products covered by this Technical Data Sheet.

Theoretical spreading rate	Dry film (µm)	Wet film (µm)	Theoretical spreading rate (m²/l)
	80	121	8.3
	100	152	6.6
	120	182	5.5

As many of the paint's properties will change if too thick coats are applied, it is not recommended that the product is applied to a film thickness that is more than double of the thickest recommended film.

Colours	The paint is available in base colors intended for tinting systems. One tinting system should be used throughout the entire project. After agreement, selected colors are available in factory colors.
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Tinting system	Teknomix;Teknotint
Gloss (60°)	Semi-gloss
Hardener	Comp. B: TEKNODUR HARDENER 7333
Mixing ratio (A:B)	100:9 parts by volume
Pot life, +23°C	2 h
Thinner	TEKNOSOLV 9521 - slow evaporating, TEKNOSOLV 433 - fast evaporating
Storage	The storage stability is shown on the label. Store indoors in a cool and dry place and in a tightly closed can. The hardener reacts with air humidity and therefore the can is to be kept carefully closed. Use opened hardener within two weeks.

DIRECTION FOR USE

Surface preparation

Remove from the surfaces any contaminants that might be detrimental to surface preparation and application. Remove also water-soluble salts by using appropriate methods. The surfaces are prepared according to the different materials as follows:

STEEL SURFACES: Remove mill scale and rust by blast cleaning to preparation grade Sa 2½ (standard ISO 8501-1). Roughening the surface of thin-plate improves the adhesion of the paint to the substrate.

ZINC SURFACES: Hot-dip-galvanized steel structures that are exposed to atmospheric corrosion can be painted if the surfaces are sweep blast-cleaned (SaS) till matt all over. Suitable cleaning agents are, e.g. aluminium oxide and natural sand. It is not recommended according to standard ISO 12944-5 to paint hot-dip-galvanized objects that are subjected to immersion strain. Painting of hot-dip-galvanized objects that are subjected to immersion strain must be discussed separately with Teknos. It is recommended that new zinc-coated thin-plate structures are treated with sweep blast-cleaning (SaS). Surfaces that have been weathered to matt can be treated also with RENSA STEEL washing agent.

OLD PAINTED SURFACES SUITABLE FOR OVERCOATING: Any impurities that might be detrimental to the application of paint (e.g. grease and salts) are removed. The surfaces must be dry and clean. Old, painted surfaces that have exceeded the maximum overcoating time are to be roughened as well. Damaged parts are prepared in accordance with the requirements of the substrate and the maintenance coating.

The place and time of the preparation are to be chosen so that the prepared surface will not get dirty or damp before the subsequent treatment.

Additional instructive information for surface preparation can be found in standards EN ISO 12944-4 and ISO 8501-2.

Priming

The coating is compatible with Teknopox Primer 7-00 MIOX, Teknopox Primer 87-00 MIOX, Epinox 87 and Epinox 77. For other primers, contact TEKNOS representative.

Application method

Airless spraying, Conventional spraying, Brush, Roller

Application

Take into consideration the pot life of the mixture when estimating the amount to be mixed at a time. Before application the base and hardener are mixed in right proportion. Stir thoroughly down to the bottom of the vessel. Inadequate stirring or incorrect mixing ratio results in imperfect curing and impaired film properties.

When needed, thin the paint with TEKNOSOLV 9521 or TEKNOSOLV 433. Apply by airless spray, brush, roller, and after diluting – conventional spray. Suitable airless nozzle size 0.011 - 0.015".

Before use clean the spray gun and mixing vessels with a thinner TEKNOSOLV 9521 or TEKNOSOLV 433.

Do not use universal thinners, since they may contain alcohol which will react with the hardener.

When preparing painting specification, depending on subject and type of construction, different dry film thickness than recommended can be assumed. If is required to obtain a coating with lower thickness, it is recommended to dilute the paint, adding the recommended thinner in the amount of 5-10%. The minimum recommended dry film thickness is 50 µm. Different dry film thickness than recommended causes change in theoretical spreading rate, wet film thickness, weight of dry film thickness, drying time, overcoating time and ready for handling time.

Application conditions

The surface to be treated must be dry and the relative air humidity below 80%. Minimum surface temperature -5°C (surface frost- and ice-free) and at least 3°C higher than dew point during the application and drying period.

Drying time

+23°C / 50% RH (dry film 80 µm)

- dust free

after 45 min

- touch dry

after 2,5 h

Overcoatable

Surface temperature	By itself	
	Min.	Max.*
+10°C	after 5 h	18 months or extended**
+23°C	after 2,5 h	18 months or extended**

* A completely clean surface is mandatory to ensure the best intercoat adhesion. If the maximum overcoating interval has been exceeded, the surface must be roughened before overcoating. Increase in film thickness and rise in the relative humidity of the air in the drying space slow down the drying process and effect the overcoating properties.

** Maximum overcoating interval can be extended in certain circumstances. To determine if extended overcoating interval is applicable please consult Teknos representative in written form.

Cleaning

TEKNOSOLV 9521, TEKNOSOLV 433

HEALTH AND SAFETY

Safety and precaution measures

See safety data sheet.

The hardener of the product and the ready mixture contain isocyanates. In poorly ventilated areas and especially when using spray application we recommend the use of a fresh air mask. In short or temporary work, a mask with combined filter A2-P2 can be used. In this case eyes and face are to be protected.

The hardener can must be opened with caution, as pressure may develop in the can during storage.

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