



TECHNICAL DATA SHEET

Floor Coating: CHEM 1000

Last update: December 2016

**CHEM 1000
High Performance Top Coat Polyaspartic, Low Viscosity**

PRODUCT DESCRIPTION

The CHEM 1000 is a two-component (1:1) polyaspartic floor coating system which has an indistinct odor. The CHEM 1000 is used as a base coat (colored) and a clear top coat using a common hardener. High solids versions (80 and 90) are available as well as a prolonged working time version (WT). It provides a quick turnaround with very rapid curing time (tack free of approx.45-60 minutes) under normal conditions allowing the installation of a flooring system in a single day. The product displays excellent curing capability at very low temperature levels. This product offers superior mechanical and chemical properties and is low maintenance. It also displays a superior aesthetic finish and excellent UV stability. We recommend the utilization of the CHEMTEC vinyl chips in combination with CHEM 1000 products. Two- or three-coat systems can be considered.

USES

The chemical and mechanical properties of Chemtec 1000 provide excellent results for several applications:

- Shopping malls
- Office buildings
- Retail stores
- Industrial plants and warehouses
- Food processing and preparation plants
- Public facilities including hospitals and schools
- Pharmaceutical companies
- Other industrial, commercial, farming, military and residential uses
- Parking garages

ADVANTAGES

- Indistinct odor
- Potential for LEED eligibility
- High solids content 80% and 90%
- Excellent UV, non-yellowing and impact resistance
- 1:1 system with common hardener for the base coat and top coat
- Possibility to install base coat and top coat in a single workday
- Cures quickly – recommended to obtain best curing at very low temperature levels (below zero Celsius)
- WT version offers longer working times
- Possible to obtain higher or lower coverage rates depending on the needs
- Possible to install two- or three-coat systems using a single product
- Easy to install due to the very low viscosity of the product
- Very long recoat window and pot life
- High chemical and mechanical resistance
- Impermeability / low moisture sensitivity
- Superior gloss finish
- High density of the product prevents dirt penetration resulting in low maintenance

APPLICATION DATA

Mix ratio	1A :1 B
Packaging	2 x gallon kits
Color	Clear or colored



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Wet Coverage / gal	Mils	Sq. Ft.
	4	400
	5	320
	6	267
	7	229
	8	200
	9	178
	10	160
	11	145
	12	133
	13	123
	14	114
	15	107
	16	100

Shelf life Six months , in original unopened
Factory pails, under normal storage
Conditions.

Cure time

Working time : 15-25 min 22°C and 55% rel. hum
Tack free : 45-60 min 22°C and 55% rel. hum.
 Hard dry : 2.5 hours 22°C and 55% rel. hum.
 Light foot dry : 2-3 hours 22°C and 55% rel. hum.
 Light traffic : 2-3 days 22°C and 55% rel. hum.
 Full cure : 2 weeks 22°C and 55% rel. hum.

Solids content 80% and 90%

TECHNICAL PROPERTIES

Hardness, Shore D	ASTM D2240	>65	
Tensile Strength		8000	psi
DE 500 hr	ASTM 3424	<2.0	
Taber Abrasion (1000 cycl, CS17)		58	(mg loss)
Gardner Impact (Dir/Rev)		>140	lbs

SURFACE PREPARATION

Concrete should be clean, dry and free of grease, oil, paint, curing agents or any contaminants that may

inhibit proper adhesion. Concrete should be cured at least 28 days before applying the coating system.

Proper testing procedures should be practiced with regards to soil acidity and moisture vapor transmission. Take a pH reading to ensure concrete is neutral (a reading between 5 and 9 is acceptable). Use a calcium chloride test to measure moisture vapor transmission. Readings of 3.5 lbs./1000 sq. ft. during a 24-hour period or less are acceptable for applying coatings. Higher results should receive a moisture mitigation system.

Surface must be shot blasted or prepared with an equivalent mechanical means in line with CSP-2. Ensure the surface is free of contaminants, and the pores are open to allow the product to penetrate. If shot blasting procedure is undertaken, it may produce excessive texture to the surface which may show through the coating.

If the product is applied over epoxy, it is imperative to read the epoxy manufacturer data sheet on recoat properties for proper adhesion. Epoxy should be sanded with a proper floor machine. A mechanical bond to a sanded surface is required and the pores of the existing coating must be opened for better adhesion. Wiping properly prepared surface with alcohol will ensure no loose dust particles from the sanding process are present.

When using a flake decorative system, the base coat with the flakes should be sanded and cleaned after appropriate hardness is reached prior applying the top coat. Contact us for more details on how to use the product with flake systems.

MIXING

Before final mixing, pre-mix parts A and B individually at low speed. Special attention must be paid to colored versions of the product since

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pigments may have separated from the rest of the formulation during storage. Mixing should be done until the color is uniform.

Then, mix one part of A and one part of B together at low speed in a separate container. The mixing container must be clean and free of any outside particle. Mix thoroughly for three minutes using a low speed drill (300-450 rpm) to minimize the entrapping of air. It is recommended to activate the mixer in the reverse mode after the first minute in order for the liquid to mix from the bottom of the mixing can to the top. Make sure to scrap sides and bottom of mixing container so no unmixed material remains. Mix only the necessary quantity to be used according to the specified pot life / working time.

APPLICATION

This product will cure at temperatures well below zero Celsius. Best results will be obtained between -10 °C and 30°C and with a relative humidity of less than 80%. Although this product has been formulated to reduce bubble entrapment within the film, it is recommended to avoid application during the hottest part of the day in order to minimize outgassing and bubble formation.

Once the surface has been properly prepared, squeegee and roll back apply the product. It is recommended to apply the product in a multi-directional (north-south, east-west) motion to achieve a uniform product coating.

CHEM 1000 is self-priming and is tack free after approx. 45-60 minutes under normal conditions (60-80 minutes for the WT version). The product can be installed in a two- or three-coat system. We recommend the CHEMTEC vinyl chips when installing a flake system. We do not recommend installing more than 20-30 mils of the product for each layer of the system (see Limitations section for more

details). Proper tests should be conducted prior application.

RECOAT

Do not recoat without sanding if last coating of the product has been applied for more than 24 hours (at 22°C). The floor surface should be sanded/abraded until a uniform dullness is achieved. There should be no gloss on the prior coating after vacuuming and before applying the next coat. It is recommended to use an aggressive solvent to eliminate all the dust after vacuuming and to soften the initial coat prior applying the additional coat. Recommended solvent is xylene. Make sure the solvent is completely evaporated and there are no residues. In case there are remaining residues, wipe the surface using a dry rag or swab.

CLEAN UP

Cured product may be disposed of without restriction. Excess liquid A and B material should be mixed together and allowed to cure, then disposed of in the normal manner. Product may be disposed in accordance with provincial and federal regulations. Uncured material can be removed with proper solvent. Follow the solvent manufacturer instructions for use and warnings.

LIMITATIONS

Requires a dry substrate. This product should not be applied to concrete substrates that show high levels of moisture vapor transmission (see "Surface Preparation" section). Although this product may be applied in a wide range of thickness, limitations may apply when taking into consideration curing time. It is recommended to use 100% solids products and avoid solvent based products for installations



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beyond normal thickness levels for concrete floor coating systems (beyond 20-30 mils). It is also recommended to do proper testing if a non-conventional installation is considered. Everything else being equal, thicker is the film, longer is the curing time. This product may dry extremely fast in a high humidity environment. Temperature will also impact curing time. Curing time may extend significantly at very low temperature levels. Keeping the product stored at room temperature will make the application easier and dry times shorter.

Chemtec stands behind the quality of its products. However, Chemtec cannot guarantee final results since Chemtec has no control over surface preparation, operating conditions and application procedures. Clients are solely responsible to test Chemtec products to determine if they perform as expected. Contact Chemtec for further information regarding the limitations of this product.

AVAILABLE COLORS

Clear

Grey

Tan

Others

- Full color customization available
- Contact us for additional details

Refer to the most recent Material Safety Data Sheet prior using this product

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