

MasterTop 1289

Self-leveling epoxy system with high mechanical and excellent chemical resistance for flooring in the industrial sector

MATERIAL DESCRIPTION

MasterTop 1289 is a self-levelling, non-solvent epoxy system for continuous flooring with very high chemical resistance.

FIELDS OF APPLICATION

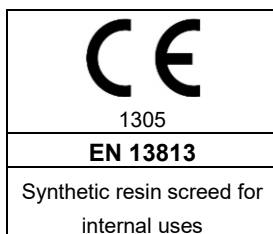
MasterTop 1289 is typically used in both internal and external industrial areas subject to severe chemical attack such as secondary containment tanks or storage areas. It can also be used in external areas: any yellowing of the coating does not affect its chemical performance and durability.

FEATURES AND BENEFITS

The MasterTop 1289 system:

- WHG Wasserhaushaltsgesetz certificate regarding the protection of water resources from industrial spills (Germany);
- not solvent-based;
- resists chemical attack by hydrocarbons, mineral oils, salts, bases and acids in accordance with the provisions of all chemical classes of UNI EN 13529 (severe chemical attack resistance);
- resists impacts, wear and frequent traffic.withstands shocks, wear and frequent traffic;

In compliance with the European Regulation (EU No 305/2011 and EU No. 574/2014) the product is provided with the CE marking according to UNI EN 13813 and the relative DoP (Declaration of Performance).



CONSUMPTION

Consumption depends on the roughness of the substrate. The values indicated assume a smooth surface and a substrate temperature between 15 and 25°C; very rough surfaces and lower temperatures increase consumption. Actual consumption must be assessed by applying it to a test area.

STORAGE

Store the material in the original containers, in a dry and covered place at a temperature between 15 and 25°C. Do not expose to direct sunlight.

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System Build Up 1, Products and consumptions. Thickness 2,1mm			kg/m ²
MasterTop P 604 (o MasterTop P 622)		Saturation primer	0,3-0,5
MasterTop F 5		Sowing of quartz	0,8-1
MasterTop BC 389		Self-leveling	2.5
System Build Up 2, Products and consumptions. Thickness 3-4 mm			
MasterTop P 604 (o MasterTop P 622)		Saturation primer	0,4-0,7
MasterTop F 1			0,2-1,3
MasterTop F 5		Sowing of quartz	2-3
MasterTop BC 389		Self-leveling	2.5
Essential characteristic in accordance to UNI EN 13813		Limits and classes	Performances
Concrete adhesion	UNI EN 13892/8 su supporto MC (0,40) UNI EN 1766.	Class (MPa): B0,5, B1, B1,5, B2	Class B >1.5
Abrasion resistance	UNI EN 13892/4 (BCA)	AR6, AR5, AR05	Class AR0.5
Impact resistance	UNI EN ISO 6272	Class IR J (J impact energy N·m)	IR4
Essential characteristic in accordance to UNI EN 1504/2		Limits and classes	Performances
Slip / creep resistance	UNI EN 13036/4	Class I: wet test for internal surfaces: > 40 units; Class II: dry test for internal surfaces: > 40 units	Classe II
Fire behaviour	UNI EN 13501/1	A1 _{fl} , A2 _{fl} , B _{fl} , C _{fl} , D _{fl} I, E1 _{fl} , S1, S2	C _{fl} -S1

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CHEMICAL TRANSPORTATION: CHEMICAL AGGRESSIVE AND RELATIVE GROUP UNI EN 13529

Aggressive chemical	liquid group UNI EN 13529	Aggressive chemical	liquid group UNI EN 13529
1,2-dichloroethane	6	Acetic anhydride	7
Acetaldehyde	7	Maleic anhydride	7
Amyl acetate	7	Aniline	13
Ethyl acetate	7	Antifreeze (ethylene glycol)	5
Acetophenone	7a	Benzene	4a
Acetone	7	Petrol, diesel and hydrocarbons	4
Acetic acid	9	Biodiesel (transesterified lipids)	7b
Acrylic acid	9a	Butanol	5
Adipic acid	9a	Caprolactam (amide)	7
Benzoic acid	9a	Jet fuel	2
Boric acid	10	Kerosene	2
Citric acid	9a	Cyclohexane	4
Hydrochloric acid	10	Chloroform	6a
Chloroacetic acid	9	Benzoyl chloride	6b
Chromic acid	10	Calcium chloride	12
Decanoic acid (capric)	9a	Sodium chloride	12
Heptanoic acid	9a	Cresoli	9
Aluminum sulphate	10	Detergents (acids)	10
Fumaric acid	9a	Phosphoric acid	10
Gallic acid	9a	Dichloromethane(methylenchloride)	6a
Glycolic acid	9a	Dimethylformamide	7
Lactic acid	9	Hexane	4
Lauric acid	9a	Ethanol	5
Maleic acid	9a	Phenol	9
Malic acid	9a	Formaldehyde (formalin)	8
Methacrylic acid	9a	Ethyl acetate glycol	7
Nitric acid	10	Diethylene glycol	5
Oleic acid	9a	Ethylene glycol	5
Oxalic acid	9	Propylene glycol	5
Picric acid	9	Fat	4b
Salicylic acid	9a	Calcium hydroxide	11
Sulfuric acid	10	Potassium hydroxide	11
Stearic acid	9a	Sodium hydroxide	11
Tartaric acid	9	Isopropanol (2-propanol)	5
Thioglycolic acid	9a	Milk	9
Trichloroacetic acid	9a	Brake fluid (polyglycols)	5
Aqua regia	10	Methyl methacrylate	7
Denatured alcohol	4	Methanol	5a
Monochlorobenzene	6b	Methylethylketone	7
N, N-dimethylacetamide	7	Ammonium sulfate	10
Ammonium nitrate	12	Copper (II) sulphate	12
Magnesium nitrate	12	Carbon sulfide	15 a
N-methyl-2-pyrrolidone	13	Styrene	4
Oleum (fuming sulfuric acid)	10	Tetrachlorethylen (perchlorethylene)	6
Mineral oils	3	Carbon tetrachloride	6a
Vegetable oils	4	Tetrahydrofuran	15
Raw oil	4b	Toluene	4
Tar oil	4	Toluene sulfonic	9a
Castor oil (fatty acids)	9a	Turpentine	4

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Aggressive chemical	liquid group UNI EN 13529	Aggressive chemical	liquid group UNI EN 13529
Motor oil	3	Trichlorobenzene	6b
Paraffin	4	Trichlorethylene	6
Phenil Sulfuric Acid	9	Urea	12
Brine (sodium chloride)	12	White spirit (solvent)	4
Methyl salicylate	7a	Xylene	4
Detergents (alkaline)	11	Chlorinated water	12

CHEMICAL PERFORMANCE UNI EN 1504/2.

Class I: after 3 days of contact Shore reduction < 50%;

Class II 28 days of contact Shore reduction < 50%;

Class III 28 days of contact under pressure, Shore reduction < 50%

Chemical aggressive groups UNI EN 13529		Test liquid	Performance Shore D
1	Petrol	47.5% by volume of toluene 30.4% by volume of isooctane 17.1% by volume of n-heptane 3% by volume of methanol 2% by volume of tertiary butanol	Class II
2	Aviation fuel	1. 50.0% by volume of isooctane, 50.0% by volume of toluene 2. Aviation petrol 100 LL NATO Code F-18 3. Turbo fuel A-1 NATO code F-34 / F-35	Class II
3	Unused heating and diesel oil and engine and gear oils	80% by volume of n-paraffin (C12 - C18) 20% by volume of methylnaphthalene	Class II
4	All hydrocarbons including groups 2 and 3 except: 4 a) and 4 b) and engine and gear oils used	60% by volume of toluene 30% by volume of xylene 10% by volume of methylnaphthalene	Class II
4a	Benzene and benzene-containing blends (including 2 - 4 b)	30% by volume of benzene 30% by volume of toluene 30% by volume of xylene 10% by volume of methylnaphthalene	Class II
4b	Crude oil	10% by mass of isooctane 10% by mass of toluene 20% by mass of heating oil 10% by mass of 1-methylnaphthalene (95% min.) 47.7% by mass of heavy oil 0.2% by mass of thiophene (99%) 0.3% by mass of dibenzylsulfide 0.5% by mass of dibutylsulfide (97%) 1.0% by mass of mixture of naphthenic acids (acid value 230) 0.1% by mass of phenol 0.2% by mass of pyridine mixed with 2% by mass of water	Class II
5	Mono and polyalcohols (up to 48% by volume of methanol), glycol ethers	48% by volume of methanol 48% by volume of isopropanol 4% by volume of water	Class II
5a	All alcohols and glycol ethers (including 5)	Methanol	Class II

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Chemical aggressive groups UNI EN 13529		Test liquid	Performance Shore D
6	Halogenated hydrocarbons [including 6 b)]	Trichlorethylene	Class II
6a	All aliphatic halogenated hydrocarbons (including 6 and 6 b)	Dichloromethane	Class II
6b	Aromatic halogenated hydrocarbons	Monochlorobenzene	Class II
7	All organic esters and ketones (including 7 a)	50% by volume of ethyl acetate 50% by volume of methyl isobutyl ketone	Class II
7a	Aromatic esters and ketones	50% by volume of salicylic acid methyl ester salicylate 50% by volume of acetophenone	Class II
7b	Biodiesel	Biodiesel	Class II
8	Aliphatic aldehydes	35% - 40% of formaldehyde solution	Class II
9	Aqueous solutions of organic acids up to 10%	10% aqueous acetic acid	Class II
9a	Organic acids (except formic acid) and their salts (in aqueous solution)	50% by volume of acetic acid 50% by volume of propionic acid	Class II
10	Inorganic acids up to 20% and acid hydrolysis salts in aqueous solution (pH <6) except hydrofluoric acid and oxidizing acids and their salts	Sulfuric acid 20%	Class II
11	Inorganic bases and their salts with alkaline hydrolysis in aqueous solution (pH > 8) except ammonium solutions and oxidizing solutions of salts (for example hypochlorite)	Sodium hydroxide 20%	Class II
12	Solutions of inorganic non-oxidizing salts with pH = 6 - 8	Aqueous solution of sodium chloride 20%	Class II
13	Amines and their salts (in aqueous solution)	35% by volume of triethanolamine 30% by volume of n-butylamine 35% by volume of N, N-dimethylaniline	Class II
14	Aqueous solutions of organic surfactants	1) 3% of Protectol KLC 50; 2% of Marlophen NP 9.5; 95% water 2) 3% of Texapon N 28, 2% Marlipal O 13/80, 95% water	Class II
15	Cyclic and acyclic ethers	Tetrahydrofuran (THF)	---
15a	Acyclic ethers	Ethyl ether	Class II (33%)

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APPLICATION SHEET

For every application detail (preparation of the substrate, primer and other parameters) refer to the "MasterTop Industrial Floors Application Manual".

CHARACTERISTICS OF THE SUPPORT

The cementitious substrate must have minimum compressive strength class C20 / 25 for concrete according to UNI EN 206/1 and C25 for cementitious screeds CT according to UNI EN 13813.

In the case of screeds of other chemical nature required by UNI EN 13813, such as those based on calcium sulphate CA or magnesite MA or other types, contact the technical service of Master Builders Solutions for further information.

SUPPORT REPAIR AND LEVELING

Before applying the coating, it is essential to check that the concrete surfaces to be protected are not degraded and / or contaminated by oils, greases or other substances, in which case the incoherent and contaminated concrete must first be removed and then restored with MasterTop 514 QD

PREPARING THE SUBSTRATE

The surface must be prepared by shot peening or sandblasting. Other specific techniques can also be used in specific cases (the choice of the same is to be evaluated following a site visit). Dust the surface before proceeding with the application of the primer. MasterTop 1289 tolerates a maximum substrate humidity of 4%.

HUMIDITY AND CAPILLARY RISING

The MasterTop 1289 system cannot be applied directly to surfaces that are damp and / or without a vapor barrier or subject to rising damp. In such situations it is necessary to provide for the application of the specific primer MasterSeal P 385 at a rate of 1.5 kg / m² or of MasterTop 514 QD in the epoxy-cement version (3k) for a minimum thickness of 3 mm.

TEMPERATURE

MasterTop 1289 must be applied when the ambient temperature (minimum 8°C and maximum 30°C) remains constant or decreases, since this device allows to reduce the risk of "blowing" linked to the escape of air present in

the porosity of the concrete. In addition, this temperature must always be 3°C higher than the dew point from the time of application and for at least the next 24 hours (at 15 ° C).

PRIMER MASTERTOP P604

Before mixing, bring components A and B to a temperature between 15 and 25°C. Pour the entire contents of part B into the container of part A. Hand mixing is not allowed. Mix with an electric propeller mixer at very low speed (approx. 300 rpm) for not less than 3 minutes. Scrape the sides and bottom of the container several times until completely mixed. The mixer blades must always be immersed in the product to avoid introducing air bubbles. Mix the material only inside the original container. Once a homogeneous consistency is obtained, pour the resin into a new container and then mix for another minute.

Technical Information	
Mixing ratio	100 A / 27 B
Density at 20°C	ca 1,44 kg/liter
Kinematic viscosity	ca. 1100 mPa·s
Workability time	12°C: 60 minutes 23°C: 30 minutes 30°C: 15 minutes
Maximum relative humidity	10°C: 75% 23°C: 85%
Recoating time	10°C: 16 – 48 h 23°C: 6 – 48 h 30°C: 3 – 24 h

After mixing, apply MasterTop P 604 on the substrate by distributing it with a rubber squeegee and finishing it with a roller. In the case of application as a smoothing layer, the installation is carried out with a trowel with the material obtained by adding the filler MasterTop F 1 to the resin.

SOWING

On the still "fresh" primer, sow with MasterTop F 5 (or F 18) filler. Excess filler must be removed when the material has hardened, with an industrial vacuum cleaner or with a broom.

After application, protect the material from contact with water for at least 24 hours at 20°C. Any premature contact with water leads to the formation of light spots (formation of carbamate) and / or to a sticky system that affects the adhesion of subsequent products.

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COVERING MASTERTOP BC 389

Mix the two components separately with an electric mixer, then pour all of the component B into the can of component A and mix until a homogeneous system is obtained.

After obtaining a homogeneous consistency, pour the resin into a new container and mix for another minute.

Slowly add the 0.1-0.3 mm quartz filler MasterTop F 1. Stir the material at low speed for a few minutes, until completely homogenized.

Technical Information	
Mixing ratio	100 A / 16 B
Density at 20°C	ca. 1,65 kg/l
Kinematic viscosity	ca. 2000 mPa·s
Workability time	30 minutes at 23°C
Maximum relative humidity	75%
Recoating time	10°C: 30 - 72 h 23°C: 10-48 h 30°C 3-24 h
Complete hardening time at 20 ° C	5 day

After mixing, apply MasterTop BC 389 on the substrate by distributing it with a toothed squeegee (V-tooth or spatula). To facilitate the escape of air bubbles that may be incorporated into the product, it is necessary to pass the surface of the material with an appropriate bubble-breaking roller 5 - 10 minutes after applying the product. Protect from contact with moisture for the first 24 hours (at 20 ° C).

CLEANING

Tools used for mixing and applying the material can be cleaned with epoxy thinner.

FLOOR CLEANING

For every detail relating to the cleaning aspects of the floor, always refer to the specific document "MasterTop Linea Industria Cleaning".

WARNINGS

MasterTop products are for professional use. For further information, consult the Master Builders Solutions Italia Spa area technician.

SAFETY INSTRUCTION

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

OTHER SERVICES

For price analysis, specifications, supplementary brochures, references, reports and technical assistance, visit the website www.master-builders-solutions.com/it-it or contact infomac@mbcc-group.com.

Scan the QR code to visit the product page and download the latest version of this datasheet.



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Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

Master Builders Solutions Italia Spa

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For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.