Aditya Birla Chemicals (Thailand) Ltd. (Epoxy Division)

YD 515 / TH 7301
Decorative flooring for Better gloss and color stability

Resin	**YD 515**	**100**
Hardener	**TH 7301**	**58**
Filler	**Quartz sand**	**300**
Additives	**BYK 353**	**1**
	BYK 530	**2.5**
Color concentrate	**as per choice**	**2 - 3**

Introduction
EPOTEC YD 515 and TH 7301 is a low color, low viscosity system intended for ambient or low temperature applications. It gives high gloss film, which is resistant to variety of chemicals. This system is ideal for formulating floorings, maintenance of floor coatings, tank linings. Its very low color and good color stability makes it suitable for clear and light colored coatings.

Resin
EPOTEC YD 515 is liquid epoxy resin modified with reactive diluent. It can be suitably formulated into high strength adhesives, in another civil and construction applications, solvent free coatings, floor toppings.

Property	Unit	Typical Value
Appearance	Visual	Clear Liquid
Color	Gardner	0.5 Max.
EEW	g/ eq.	190 - 200
Viscosity @ 25 °C	cPs	500 - 900

Hardener
EPOTEC Hardener TH 7301 is low viscosity formulated cycloaliphatic polyamine. When cured it gives very good gloss, color stability and resistance to various chemicals. Its specially designed formula gives improved resistance to amine blush.

Property	Unit	Typical Value
Appearance	Visual	Water white to light yellow
Color	Gardner	1 Max.
Viscosity @ 25 °C	cPs	350 - 500

Typical application properties of YD 515 with hardener TH 7301 (Unfilled)

Property	Unit	Typical Value *
Mix Ratio	Parts by Weight	100 : 58
Viscosity (Mixed), @ 25 °C	cPs	500 - 700
Pot life 100 grams mix, @ 25 °C	Mins.	50 - 70
Touch dry time	Hours	7 - 8
Curing Schedule	Days	7 - 14

* Typical properties. Not to be construed as Specification.

Mechanical Properties of YD 515 with hardener TH 7301 (Unfilled)

Property	Unit	Typical Value *
Hardness	Shore D	80 - 82
Compressive Strength	kg/cm²	630 - 770
Tensile Strength	kg/cm²	385 - 490
Flexural Strength	kg/cm²	630 - 740

* Typical properties. Not to be construed as Specifications

Formulation Properties (Filled)
Sand should be specially graded for good packing and toweling characteristics. It should be properly dried. This sieve analysis is one of the characteristic of sand that will trowel well. BYK additive BYK 353 is to be added in the mixture in order to ensure the good leveling and filler packing property.

BS-Standard Sieve No.	Percent retained
6	0
8	0 - 10
16	10 - 20
30	25 - 35
50	35 - 45
100	5 - 15

Property	Unit	Typical Value
Resin : Hardener : Filler: BYK 353: BYK 530	By weight	100 : 58 : 300 : 1 : 2.5
Pot life @ 25 ^{o}C	Hrs.	2
Density	gm/cm^3	2

Mechanical Properties of YD 515 with hardener TH 7301 (Filled)

Property	Unit	Typical Value*
Compressive Strength	kg/cm^2	600 - 700
Tensile Strength	kg/cm^2	140 - 210
Flexural Strength	kg/cm^2	280 - 380

* Typical properties. Not to be construed as Specification.

Surface Preparation
The surface must be clean and sound. Remove all dirt, dust, grease, curing compounds and other foreign matter by sand blasting, mechanical abrasion, or acid etching. Remove water and dust from all surfaces with an oil-free blast immediately prior to application. The surface should be totally dry.

Mixing Instructions
To obtain good results, thorough mixing of the ingredients is essential. Usually the resin, filler and additive are mixed first and then hardener. Manual mixing is possible, but is usually quite tiring. It is therefore preferable to employ an agitator rotated by means of an electric motor. A planetary mixer is ideal, but a simple mixer made by attaching a stem with 3-4 blades at the end of an electric drilling machine, may be used instead.

Application
To ensure good adhesion of heavily filled mortars to the substrate, it is strongly recommended to apply first a layer of the unfilled resin hardener mix to the substrate and then fill the cavity or lay the screed with the aid of a trowel. The self-leveling formulation can be directly poured on the substrate and leveled by means of a float or notched trowel.
The resin, being thermosetting in nature, develops heat as a result of the exothermic reaction that takes place between resin and hardener. Consequently, small batches should be mixed at a time.

Adequate curing normally takes place within 24 hours, although full cure may take longer. The repaired concrete structure or the newly laid floor topping can often be put into service after 48 to 96 hours except in winter. However full cure normally takes place in seven days.

Coverage
Formula to calculate coverage:
Density X Area (m^2) X Average Thickness (mm) = Kilograms (mix)

Note: The coverage figure will be theoretical – due to wastage factor and the variety and nature of possible substrates, practical coverage figures may vary.

Limitations
New concrete must be 28 days old prior to applications of epoxy mortar system.
Temperature of substrate must be above 10 ^{o}C.

Handling Precautions
Epoxy resins and Hardeners are chemicals and hygienic procedures should be followed while handling them. Direct contact of resin and hardeners with the skin must be avoided. For more details please refer the material safety data sheet.

Safety Precautions
Prolonged or repeated exposure may cause eye and skin irritation. If contact occurs, wash immediately and seek medial help. Use safety glasses with side shields and wear protective rubber gloves.

Cleaning and Maintenance of Equipment
Tools and mixing equipment are best cleaned immediately after use since removal of cured resin is difficult and time consuming. It is recommended that the bulk of the resin be removed using a scrapper and the remainder washed away using solvents such as toluene, xylene or acetone.

For Additional Information, Please Contact:
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