

# FOX DECODECK SYSTEM FOX ZEUGMA EPOXY TERRAZZO FLOOR COATING SYSTEM TECHNICAL SPECIFICATION

## Epoxy Based, Specially Designed With 8,0-10,0 Mm Thickness Aggregates Decorative Floor Coating System Specification

### DEFINITIONS

**FOX ZEUGMA EPOXY TERRAZZO:** Epoxy Based, Specially Designed With 8,0-10,0 Mm Decorative Floor Coating System

**NTMA:** National Terrazzo and Mosaic Association, Inc. (National Terrazzo and Mosaic Association - It is a terrazzo association which is accepted by terrazzo resin producer and applicators in the world.)

**SEALER:** Topcoat protection polish

### QUALITY ASSURANCE

- Epoxy resin manufacturer: Manufacturer Company with sufficient production capacity to produce the required materials as well as epoxy resin production and successful in-service performance in accordance with NTMA standards.
- Terrazzo applicator: Implementing firm providing the necessary conditions according to NTMA standards.

All chemical products to be used and aggregates with special gradation; It must be approved by the manufacturer. It should be stored, prepared and applied considering the manufacturer's suggestions, warnings and technical information documents.

### 1. SURFACE QUALITY

#### Concrete Criteria:

Before pouring concrete, the necessary drainage systems should be placed by compacting with compactors until the soil or filling ground reaches sufficient compaction values. Since the water coming from the ground will cause the coating to rise and swell, polyethylene cover, etc. that will serve as water and moisture barrier should be laid between the compacted floor and the concrete to be poured. To reduce the consistency of the concrete to be used, no additional water should be entered in the field. Excessive water in the concrete may evaporate, causing shrinkage cracks. Concrete levelling should be done by using vibratory screed and helicopter finishing. (Effective in epoxy consumption.) Dilatations and control joints in the field concrete must be designed in accordance with the structural design of the building. Coatings to be made on concrete floors without dilatation and control joints; it becomes unusable due to subsequent breaks and collapses on the ground. After a minimum of 24 hours following the concrete pouring, the control joints are cut to be at least 1/3 of the height of the concrete coating.

### 2. WATCH POINTS

Concrete surfaces to be floored must be at least 28 days old. Concrete compressive strength should be **at least 30 N/mm<sup>2</sup>** (C25 class), and tensile strength should be at least 2.0 N/mm<sup>2</sup>. The amount of water and moisture in 2cm concrete depth should be below 4%. Test method: C-Aquameter, CM-Device, Darr Method.

Also, there should be no moisture rising from all old or new concrete floor coverings. The ground waters are elevated and moved to the surface due to the capillary feature of the concrete. This situation causes the coatings on the floor to detach from the floor and rise and swell. This effect is detected by simple polyethylene cover testing. A transparent polyethylene (nylon) cover is adhered to the concrete surface with moisture-proof polyurethane sealant. Moisture from the floor accumulates under the polyethylene cover and appears as droplets, under these conditions floor covering should not be done. If moisture is not observed when the cover is checked 24 hours after gluing, coating is suitable.

The roof, walls, doors and windows of the building should be made, ambient and surface temperature should be minimum +10°C and maximum +30°C. In order to increase the applicability of the products in cold weather, the packages should be kept at 20-25°C and made ready for use. Rain, dust, wind, animals and pests should be prevented from entering the building while the coating is fresh. Consumptions are given for conditions where ambient and surface temperatures are considered as 20°C. Actual consumption may vary depending on the surface structure. It should be remembered that the consumption will increase on the damaged surfaces. Solvents, thinners etc. which will be against the usage instructions during the application should not be added to the products. In resin-based systems, pot life and curing times are affected by ambient temperature, ground temperature and humidity in



the air. Curing slows at low temperatures, which increases pot life, over coating time and working time. Curing accelerates at high temperatures, which shortens pot life, over coating time and working time. In order for the entire product to complete its curing, the ambient and ground temperatures should not be lowered below the minimum temperature levels given. After the application is completed, the coating should be protected from direct water contact for at least 24 hours. If water contact occurs, there will be softening and blistering on the coating, which will cause the coating to lose its properties. If such a situation is encountered, the coating should be completely removed and rebuilt.

### 3. APPLICATION PROCEDURE

#### 3.1 Substrate Preparation:

The cement grout on the concrete surfaces to be floored is cleaned from the surface using abrasive equipment (Shot blasting, milling machine, diamond polish, etc.). Weak concrete pieces should be removed from the surface, small gaps, holes should be made completely open. The resulting dust should be cleaned with the help of an industrial vacuum cleaner. Gaps, cracks and broken concrete on the bottom surface should be opened in the form of v, then filled and surface smoothness should be ensured. For surface repairs, filling gaps and smoothing the surface, depending on the condition of the area to be repaired, 60-70 Afs (0.1-0.3mm) silica sand **FOX EPOTHANE® PRIMER HB** primer in the desired ratio (1/1 to 1/10) is used by mixing. If preferred correction screed is applied after crack and gap repair, **if there is corrugation on the surfaces** where **FOX TERRAZZO** will be applied.

#### 3.2 "Fox Self Levelling Screed for Repairing Up to 5mm System" Application

##### A. Epoxy Primer Application

**FOX EPOTHANE® PRIMER HB** is an epoxy based, two-component, transparent, solvent free, low viscosity primer set that creates an anti-moisture layer.

#### Technical Features

Density		1,03 gr/cm <sup>3</sup>
Colour		Transparent, Yellowish
Mortar Properties with 14,3% Binder		
Compressive Strength		~ 109 N/mm <sup>2</sup>
Flexural Tensile Strength		~ 40 N/mm <sup>2</sup>
Splice Strength	Concrete	>2 N/mm <sup>2</sup>
Solids by %		% 100
Dilution		No dilution
Application Surface Temperature		+5°C / +30°C
Vapour Permeability	ISO 7783-2	4,1 gr/ m <sup>2</sup> day
Working Time		25 minutes



The above values are given for + 23 ° C and 50% relative humidity. High temperatures shorten the time, low temperatures increase the time.

#### Application

Mix A component **FOX EPOTHANE® PRIMER HB** with suitable mixer for 1 minute without dragging air. Then pour component B onto component A. Stir continuously for 2 minutes until you have a homogeneous mixture. If necessary, add 60-70 AFS (0,1-0,3 mm) quartz sand 1/1 according to the surface condition after mixing A and B components. Stir for 2 more minutes until you get a homogeneous mixture. Avoid over mixing to minimize air entrainment. (Mixing tools: 300-400 rpm electric mixer and epoxy / polyurethane resin mixing tip)


The prepared **FOX EPOTHANE® PRIMER HB** is applied by roller with a consumption of approximately **0.30-0.35 kg/m<sup>2</sup>**. 15-25 AFS (0.7-1.2 mm) quartz sand is sprinkled with approximately **2.0-2.5 kg/m<sup>2</sup>** on the primed surface. A minimum of 12 hours (24 hours depending on weather conditions) should be allowed to dry before applying **FOX ROCKTOP FF100** cement based correction screed. Before making the correction screed, the excess sand remaining on the surface should be removed with scraper, and the non-stick sand should be cleaned with the help of an industrial broom.



## B. Screed Primer Application

**FOX PRIMERA® FL220** is polymer dispersion based, one component primer material developed for all absorbent and weak surfaces.

### Technical Features

Structure of the Material	Liquid acrylic copolymer dispersion	
Density	1 kg/lt	
Density of the mixture with Water	1,3 gr/cm <sup>3</sup>	
Solids by %	%17-20	
Colour	Light Blue	
Drying Time	2 hours	
Service Temperature	-20°C / +80°C	
Application Surface Temperature	+5°C / +30°C	
2 <sup>nd</sup> layer application	2 hours	
Over coating after	24 hours	

The above values are given for + 23 ° C and 50% relative humidity. High temperatures shorten the time, low temperatures extend the time.

### Application

**FOX PRIMERA® FL220** is mixed with an electric mixer of 400-600 rpm, adding the amount of water specified in the application method, until a homogeneous mixture is obtained. **FOX PRIMERA® FL220** is poured on the cleaned and ready surface. The material is applied homogeneously to the surface by brush or roller. Depending on the condition of the surface, the driving density should be adjusted. Consumption should be increased on surfaces with high adhesion risk. The formation of ponds should not be allowed on the surface.

**FOX PRIMERA® FL220** is applied with a brush or roller by diluting with 1/1 water in the 1st layer application,


**FOX PRIMERA® FL220** is applied by roller without thinning in the 2nd layer application..

The prepared **FOX PRIMERA® FL220** is applied on the surface with a roller with a consumption of approximately 0.25 kg/m<sup>2</sup>.

## C. Screed Application

**FOX ROCKTOP FF100** is a high strength and flexible industrial floor coating with cement and acrylic combination, steel fiber / fiber reinforced, two-component, can be applied between 4-8 mm.

### Technical Features

Structure of the Material	A Component	Special cement, steel fiber/fiber, mineral fillings	
	B Component	Copolymer acrylic dispersion	
Density		2,00 kg/litre	
Colour		Grey	
Compressive Strength	7 days	13 N/mm <sup>2</sup>	
	28 days	23,0 N/mm <sup>2</sup>	
Bending Strength	28 days	8,8 N/mm <sup>2</sup>	
Tensile Strength	28 days	2,0 N/mm <sup>2</sup>	
Abrasion Strength	DIN 53754	CS 17 disk (weight loss) 245 mg	
Taber 1 kg 1000 rev		H22 disk (weight loss) 301 mg	
Woking Time		30 dk.	
Cures in		28 days	
Application Thickness		Max. 8 mm	

The above values are given for + 23°C and 50% relative humidity. High temperatures shorten the time, low temperatures extend the time.

### Application

Pour **FOX ROCKTOP FF100** B component into a clean mixing bucket. Slowly add component A to component B and mix for 3-4 minutes until you get a homogeneous mixture with the electric mixer and the appropriate mixing tip. The steel fibers in the powder component should not be allowed to lump at the bottom of the bucket and these lumps should be distributed. After waiting for about 2 minutes, mix for 1 more and make it ready for use.

Mixing Tools: (400-600 rpm) electric mixer and epoxy / polyurethane resin mixing tip

The prepared mixture is poured on the surface and spread on the floor with a height-adjustable trowel. If the surface is primed, this should be done before the primer dries. Spiked rolls should be applied in order to eliminate the air bubbles that will occur after a while. If the Spiked roll application is late, it can get roller marks on the surface.



Therefore, it is necessary to complete the application process quickly. Uniform application is recommended to obtain a smooth surface.

The prepared **FOX ROCKTOP FF100** is applied to the surface with a consumption of approximately **7.0-8.0 kg/m<sup>2</sup>**.

### 3.3. "Fox Iso-Crack Epoxy Membrane System" Application

#### A. Epoxy Primer Application

**FOX EPOTHANE® PRIMER HB** is an epoxy based, two-component, transparent, solvent free, low viscosity primer set that creates an anti-moisture layer.

#### Technical Features

Density		1,03 gr/cm <sup>3</sup>
Colour		Transparent, Yellowish
Mortar Properties with 14,3% Binder		
Compressive Strength		~109 N/mm <sup>2</sup>
Flexural Tensile Strength		~40 N/mm <sup>2</sup>
Splice Strength	Concrete	>2 N/mm <sup>2</sup>
Solids by %		% 100
Dilution		No dilution
Application Surface Temperature		+5°C / +30°C
Vapour Permeability	ISO 7783-2	4,1 gr/m <sup>2</sup> day
Working Time		25 minutes



The above values are given for + 23 ° C and 50% relative humidity. High temperatures shorten the time, low temperatures increase the time.

#### Application

Mix A component **FOX EPOTHANE® PRIMER HB** with suitable mixer for 1 minute without dragging air. Then pour component B onto component A. Stir continuously for 2 minutes until you have a homogeneous mixture. If necessary, add 60-70 AFS (0,1-0,3 mm) quartz sand 1/1 according to the surface condition after mixing A and B components. Stir for 2 more minutes until you get a homogeneous mixture. Avoid over mixing to minimize air entrainment. (Mixing tools: 300-400 rpm electric mixer and epoxy / polyurethane resin mixing tip)

The prepared **FOX EPOTHANE® PRIMER HB** quartz sand mixture is applied with a trowel at approximately **0.60-0.70 kg/m<sup>2</sup>** consumption. Before applying **FOX PURMAX EP-2K** epoxy-polyurethane based crack bridging membrane on the primed surface, the primer should be waited for a minimum of 12 hours (24 hours depending on weather conditions).

#### B. Crack Bridging Membrane Application

**FOX EPOTHANE® ISO-CRACK EP-2K** is an epoxy polyurethane based, 100% solid, flexible epoxy-polyurethane membrane designed to prevent cracking on the surface in Fox Bau Terrazzo coating systems. The unique bonding and elongation properties of the resin provide exceptional crack bridging and are recommended for use on interior concrete surfaces before laying the floor. Provides 140-160% elongation allowing horizontal surface movement.

#### Technical Features

Density		1,10±0,05 gr/cm <sup>3</sup>
Colour		Cream
Tensile Strength	DIN 53504	+23°C ≥ 10 N/mm <sup>2</sup>
Splice Strength	Concrete	1,83 N/ mm <sup>2</sup>
Splice Strength	Concrete	2,95 N/ mm <sup>2</sup> (Epothane® Primer used surface)
Splice Strength	Steel	1,00 N/ mm <sup>2</sup>
Splice Strength	Steel	1,57 N/ mm <sup>2</sup> (Epothane® Primer used surface)
Solids by %		% 100
Dilution		No dilution
Shore A Hardness	7 days	65
Shore D Hardness	7 days	19
Thermal Resistance	24 hours (-23°C/+25°C)	No Crack
Elongation at Break	DIN 53504	+23°C ≥ %140-160
Working Time		45-50 minutes



The above values are given for + 23 ° C and 50% relative humidity. High temperatures shorten the time, low temperatures increase the time.



### Application

A component **FOX EPOTHANE® ISO-CRACK EP-2K** contains pigment and filler. Stir A component product thoroughly with an electric mixer and a suitable mixing tip until you get a homogeneous colour and make sure that there is no product on the bottom and sides of the container. After adding the B component product to the A component product, add 3-4 minutes until you get a homogeneous mixture. stir continuously throughout. Avoid over mixing to minimize air entrainment.

Mixing tools: (300 rpm - 400 rpm) electric mixer and epoxy / polyurethane resin mixing tip.

The prepared **FOX EPOTHANE® ISO-CRACK EP 2K** mixture is applied properly on **VERTEX GLASS FIBER MESH FABRIC 160 gr/m<sup>2</sup>** mesh with a consumption of approximately **1.0-1.5 kg/m<sup>2</sup>**. 20-30 AFS (0.3-1.0 mm) quartz sand is sprinkled with approximately **1.0-1.5 kg/m<sup>2</sup>** on the applied surface.

The excess sand sprinkled is cleaned. Joints are opened every 5 meters. 8 mm aluminium profiles are bonded to the joints opened with polyurethane sealant. Every 20 meters, 8 mm aluminium profiles are glued back to back for control joints and the inter-profiles are bonded with polyurethane sealant. The profiles used can be used for both joint and pattern application.

### 3.4. "Fox Zeugma Epoxy Standard Terrazzo Flooring System" Application

#### A. Epoxy Terrazzo Coating Application

**FOX EPOTHANE® BASECOAT TERRAZZO** is an epoxy resin based, two component, high chemical resistance, solvent free, self-levelling decorative coating material developed for terrazzo system.

#### Technical Features

Density		1,40 gr/cm <sup>3</sup>
Colour		Ral Colours
Compressive Strength	7 days	65 N/mm <sup>2</sup>
Flexural Tensile Strength	7 days	30 N/mm <sup>2</sup>
Splice Strength	Concrete	>1,5 N/mm <sup>2</sup>
Solids by %		%100
Application Surface Temperature		+10°C /+30°C
Dilution		No dilution
Shore D Hardness	7 days	85
Abrasion Resistance	Taber CS10/1kg/1000dv.	70 mg
Working Time		35 minutes
Recommended Thickness		1,5 mm - 3,0 mm

The above values are given for +23°C and 50% relative humidity. High temperatures shorten the time, low temperatures extend the time.

#### Chemical Resistance

Sugared Water	+	Xylene	+	Leaded Benzene	+	Styrene	+-
30% Salty Water	+	Butyl Glycol	-	SulphuricAcid(%30)	-	Glycerine	+
Tea	+	Propylene Glycol	+-	Toluene	+	Olive Oil	+-
Coffee	+	%10 KOH	-	Petrol	+-	Silicone Oil	+-
Ketchup	+-	Ethanol	+-	Deionize Water	+-	Wine	+-
Mayonnaise	+-	Butanol	-	Beer	+-	Javel Water	+-
Vinegar	+-	Benzyl Alcohol	+-	Nitric Acid	-	Methyl Iso Butyl Ketone	-
Lemon Juice	+-	Ethyl Acetate	+-	Benzene	+-	Diesel Oil	+-
Mineral Water	+-	Suma	+-	%10 NaOH	-	Caustic Soda	+
Fruit Juice	+	Amyl Alcohols	+-	Castor Oil	+-	Turpentine	+-
Carbonated beverage	+	Methanol	+-	Soap	+	Paraffin	+-
HCL (%30)	-	Propanol	+-	Cyclohexane	+-	Perchlorethylene	-

This research was done at room temperature. High temperature values and / or mixtures of chemicals can affect chemical resistance. Colour change may occur due to the effects of chemicals.

If the surface is exposed to the chemical, it should be cleaned within a maximum of 1 hour. It is recommended to use (+). Conditional use (+ -) is recommended. (-) Should not be used.

#### Application

Before starting the mixture, make sure that the product temperatures are between +15°C and +25°C. A component **FOX EPOTHANE® BASECOAT TERRAZZO** contains pigment and filler. Stir A component product thoroughly with an electric mixer and a suitable mixing tip until you get a homogeneous colour and make sure that there is no product on the bottom and sides of the container. After adding the B component product to the A component product, mix it for at least 3 minutes until you get a homogeneous mixture. After mixing A and B components, add aggregates in required amount according to the system to be applied and mix for 2 more minutes until you get a homogeneous mixture. Avoid over mixing to minimize air entrainment.

Mixing tools: (300-400 rpm) electric mixer and epoxy / polyurethane resin mixing tip



The prepared **FOX EPOTHANE® BASECOAT TERRAZZO** mixture is applied smoothly with a trowel in 8 mm aluminium profiles with a consumption of approximately **23,30-25,30 kg/m<sup>2</sup>** (4,60-5,0 kg **FOX EPOTHANE® BASECOAT TERRAZZO**; 13,80-15,0 kg 1-3mm/3-6mm/6-9mm aggregate mixture, 4,90-5,3 kg **FOX EPOTHANE FILLER TF**).

At least 48 hours after application, the desired aggregate texture is obtained by wiping with 30-50- 120 grit, respectively, using grinder machine and sequential diamond suitable for casting terrazzo. After the aggregate is exposed, 50,100,200, 400, 800, 1,500, 3,000 diamond resin pads and Shine Pro Buff should be wiped and smooth terrazzo solid should be completed in order to remove the diamond erasing traces and polish the coating. (800,1500,3000 diamond resin pad and Shine Pro Buff wipe should be continued according to the desired gloss surface.)

Note: If pores are seen on the surface after wiping with 50 resin pads, the terrazzo surface should be cured with **FOX EPOTHANE® BASECOAT TERRAZZO** mixture with a consumption of approximately **0.25-0.30 kg / m<sup>2</sup>**. The curing surface should be wiped with 50,100,200, 400, 800, 1,500, 3,000 diamond resin pads and Shine Pro Buff and smooth terrazzo solid should be completed.

(800,1500,3000 diamond resin pad and Shine Pro Buff wipe should be continued according to the desired gloss surface.)

## B. Epoxy Terrazzo Curing Application

**FOX EPOTHANE® BASECOAT TERRAZZO** is an epoxy resin based, two component, high chemical resistance, solvent free, self-levelling decorative coating material developed for terrazzo system.

### Technical Features

Density		1,40 gr/cm <sup>3</sup>
Colour		Ral Colours
Compressive Strength	7 days	65 N/mm <sup>2</sup>
Flexural Tensile Strength	7 days	30 N/mm <sup>2</sup>
Splice Strength	Concrete	>1,5 N/mm <sup>2</sup>
Solids by %		%100
Application Surface Temperature		+10°C /+30°C
Dilution		No dilution
Shore D Hardness	7 days	85
Abrasion Resistance	Taber CS10/1kg/1000dv.	70 mg
Working Time		35 minutes
Recommended Thickness		1,5 mm - 3,0 mm



The above values are given for +23°C and 50% relative humidity. High temperatures shorten the time, low temperatures extend the time.

### Chemical Resistance

Sugared Water	+	Xylene	+	Leaded Benzene	+	Styrene	+-
30% Salty Water	+	Butyl Glycol	-	Sulphuric Acid(%30)	-	Glycerine	+
Tea	+	Propylene Glycol	+-	Toluene	+	Olive Oil	+-
Coffee	+	%10 KOH	-	Petrol	+-	Silicone Oil	+-
Ketchup	+-	Ethanol	+-	Deionize Water	+-	Wine	+-
Mayonnaise	+-	Butanol	-	Beer	+-	Javel Water	+-
Vinegar	+-	Benzyl Alcohol	+-	Nitric Acid	-	Methyl Iso Butyl Ketone	-
Lemon Juice	+-	Ethyl Acetate	+-	Benzene	+-	Diesel Oil	+-
Mineral Water	+-	Suma	+-	%10 NaOH	-	Caustic Soda	+
Fruit Juice	+	Amyl Alcohols	+-	Castor Oil	+-	Turpentine	+-
Carbonated beverage	+	Methanol	+-	Soap	+	Paraffin	+-
HCL (%30)	-	Propanol	+-	Cyclohexane	+-	Perchloroethylene	-

This research was done at room temperature. High temperature values and / or mixtures of chemicals can affect chemical resistance. Colour change may occur due to the effects of chemicals.

If the surface is exposed to the chemical, it should be cleaned within a maximum of 1 hour. It is recommended to use (+). Conditional use (+ -) is recommended. (-) Should not be used.

### Application

Before starting the mixture, make sure that the product temperatures are between +15°C and +25°C. A component **FOX EPOTHANE® BASECOAT TERRAZZO** contains pigment and filler. Stir A component product thoroughly with an electric mixer and a suitable mixing tip until you get a homogeneous colour and make sure that there is no product on the bottom and sides of the container. After adding the B component product to the A component product, mix it for at least 3 minutes until you get a homogeneous mixture. After mixing A and B components, add aggregates in required amount according to the system to be applied and mix for 2 more minutes until you get a homogeneous mixture. Avoid over mixing to minimize air entrainment.

Mixing tools: (300-400 rpm) electric mixer and epoxy / polyurethane resin mixing tip



The prepared **FOX EPOTHANE® BASECOAT TERRAZZO** mixture is applied properly with a trowel. The curing surface should be wiped with 50,100,200, 400, 800, 1,500, 3,000 diamond resin pads and Shine Pro Buff and smooth terrazzo solid should be completed.  
(800,1500,3000 diamond resin pad and Shine Pro Buff wipe should be continued according to the desired gloss surface.)

### 3.5. Topcoat Sealer Application

#### A. Acrylic Sealer Application

**FOX DOMINO® AC SEALER FD792** is an acrylic-based protective material used to prevent dusting of all kinds of concrete floors and to provide bright appearance.

#### Technical Features

Structure of the Material	Liquid acrylic copolymer dispersion
Density	1,03±0,05 gr/cm <sup>3</sup>
PH	8,50±0,1
Solids by %	%19±1
Colour	Opaque-White
Drying Time	30 minutes
Application Surface Temperature	+10°C / +30°C
2 <sup>nd</sup> Layer Application Time	min. 30 minutes
Dilution	No dilution

The above values are given for + 23 ° C and 50% relative humidity. High temperatures shorten the time, low temperatures increase the time.

#### Application

**FOX DOMINO® AC SEALER FD792** is ready to use, no need to mix.

**FOX DOMINO® AC SEALER FD792** is applied by roller. Depending on the condition of the surface, the driving density should be adjusted.

**FOX DOMINO® AC SEALER FD792** can be applied 2 times or more depending on the condition of the surface.

The prepared **FOX DOMINO® AC SEALER FD792** is applied smoothly by roller with approximately **0.10-0.15 kg/m<sup>2</sup>** consumption.

*The primer and consumption in the systems are given as predictions. According to ground condition and environmental conditions; primer and consumption may vary.*

