Technical Data Sheet (TDS)

Product Name
Flex-C-Ment™ WALL MIX

Manufacturer
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1. Description:

Flex-c-ment™ Wall Mix is a polymer modified cement based, vertical overlay system that can be applied over concrete, wood or metal to achieve the appearance stone, wood, tile or brick. It is a mixture of cement, cement modifiers, polymers and aggregates. Wall Mix provides a workable consistency suitable for stamping with Flex C Ment Vertical Stamping Tools or creatively carving or sculpting by hand. Once cured, Wall Mix creates a durable and natural looking stone finish that is weather and freeze/thaw resistant.
Wall Mix is a blend of lightweight aggregates, cement, and polymer, which allows for thin to moderately thick applications. It is a pre-packaged material that is mixed on the job site with clean, potable water. Application thickness ranges from 7 mm minimum, to a maximum of 100 mm in a single application. Wall mix packed in grey and white colors featuring different qualities (see item no.9 and no.10, Performance Declarations)

2. Limitations:
Flex C Ment WALL MIX formulated for use over thoroughly clean, structurally sound, and non-moving substrates. Surface preparation is required. If substrate is new concrete, it must be fully cured and free from form release, laitance, coatings, grease, dirt, or any other contamination that would impede adhesion, before applying the product. Application to drywall, plywood, and cement board will require fiberglass mesh tape over the joints and at corners to prevent reflective cracking. Install a wire mesh over drywall before applying Wall Mix. Do not install the product if ambient and substrate temperatures are not between 5°C and 30°C, unless site conditions can be modified to correct for temperature extremes. Do not apply to wet or frozen substrates. Do not install Wall Mix in areas subjected to foot or vehicular traffic, strong chemicals, or hydrostatic pressure. Do not use Wall Mix as a waterproofing material. Extend existing substrate control joints up through the Wall Mix application to minimize random cracks in the Wall Mix. Random cracks in the substrate, if not properly repaired, may transfer through the cured Wall Mix.

3. Packaging:

Flex C Ment Overlay is available in 22,7 kg bags.

SHELF LIFE: 6 months in original, unopened package, in dry storage.

Technical Data Sheet (TDS)

Product Name
Flex-C-Ment™ WALL MIX

4. Coverage:

The coverage rates of one bag of WALL MIX is approximately; max 2,2 sqm at 7 mm and min 0,7-0,75 sqm at 20 mm thickness. Coverage will vary depending on the depth of installation, substrate texture, and method of application and finishing. When imprinting Wall Mix with Flex C Ment Stamping Tools, the Wall Mix should be applied at a thickness equal to the depth of the mortar joint that will be imprinted with the stamping tool. Material applications that are too thin or too thick may not allow for the accurate transfer of pattern and texture into the overlay product.

5. Substrate Preparation:

Remove all potential bond breakers such as grease, oil, paints, sealants, drywall taping compound, mastics and other contaminants on the surface. If it is new concrete, it must be fully cured and free from curing and sealing compounds, laitance, or dusting. Slick, hard-troweled floors must be opened and roughened. Random cracks must be repaired, but may still transfer through the cured overlay. Surface preparation may include high pressure washing, grinding, scarifying, shot blasting, or sandblasting, depending on the type of residue being removed and surface profile required. Failure to remove all contamination that impedes the adhesion of WALL MIX will cause the topping to delaminate. Detergents or soaps should not be used since they may leave a surface residue. Do not acid etch as it may weaken the surface. Unsound surfaces must be removed down to sound layer.

5.1 Cement Board, Drywall and Plywood: Apply fiberglass mesh tape over joints between sheets, at inside and outside corners and over screw heads. Eliminate random movement between sheets and flexing. Mechanically fasten a wire mesh to the surface. Sufficiently secure the wire mesh so that it does not sag or bulge from the surface or otherwise move. Repair or replace damaged drywall before securing the wire mesh, and applying the Primer 100 and Wall Mix.

5.2 Scratch Coat: After the Primer 100 has applied prior to applying Wall Mix, apply a thin scratch coat of Wall Mix to the primed surface. Apply the scratch coat layer by trowel or hopper gun approximately 2-3 mm maximum thickness. Horizontally rake the surface of the scratch coat with a scratcher trowel or scarifier to create a surface profile. This will enhance the adhesion of Wall Mix. Do not rake through the scratch coat. Allow the scratch coat to cure for 8 hours. Reapply Primer 100 according to the instructions. Begin mixing and applying Wall Mix once the primer is dry slightly tacky.

6. Mixing: Ideal mixing and application temperatures are between 5°- 30°C. Use 7,5-8 lt of potable water per 22,7 kg bag of Wall Mix. Too little or too much water can cause shrinkage cracks. When the temperature, humidity or desired working consistency affects water demand, make small adjustments

Technical Data Sheet (TDS)

Product Name
Flex-C-Ment™ WALL MIX

to the amount of mixing water to achieve proper working consistency. Do not add any other liquid or chemical. Measure the water accurately and consistently from batch to batch. Do not mix partial bags. Always add water to the container first. Mix maximum of 3 – 4 minutes until a smooth, uniform mixture has been achieved with correct mixer and mixer paddles.

7. Installation:

All repair and patching compounds must be fully cured before applying Wall Mix. Do not apply Wall Mix over standing or visible moisture on the primed surface. During hot and windy weather, a plastic sheet may be placed over the Wall Mix surface to reduce moisture loss, which would cause shrinkage cracking. Always maintain a wet edge during application. Terminate installations at existing joint lines, corners or other fixed objects.

7.1. Trowel Application: Apply Wall Mix with a pool trowel and red hawk. Apply material at a consistent thickness to minimize random shrinkage cracking and to ensure consistent pattern and texture transfer when stamping. Do not overwork the surface with the pool trowel. Do not hard trowel Wall Mix. Keep the trowel clean by periodically cleaning it with water. Wipe the trowel dry before working the surface. Application time will vary with temperature, wind, humidity and applied thickness. Do not mix or apply more material than can be handled effectively for the installation. If the surface finish of the Wall Mix is not satisfactory, scrape and remove the problem area before it starts to dry and then reapply the overlay. Note: the reapplied material may be visually different from the surrounding surface. If the material is sagging appreciably after application check if the scratch coat is properly made or Primer 100 is over used.

Adjusting the application thickness is also beneficial. For example, if the desired final thickness is 2 cm first apply the wall mix at 7-8 mm to obtain a good contact with Primer 100 and then apply the material to the desired thickness. Do not allow the first application to set before application of the final layer. Once the desired thickness is achieved, stamping can be started.

7.2. Stamping or Texturing: Apply Flex C ment Liquid Release to the Wall Mix and Vertical Stamping Tools, or Texture Skins or Texture rollers before stamping. Complete all troweling before the liquid release is applied. Stamping time, up to max. 5 minutes, will vary depending on temperature, humidity and overlay thickness. Begin stamping as soon as the mixture has set sufficiently to achieve a clean impression without tearing the surface. Existing control joints should be mapped out prior to the placement of the Wall Mix and re-cut to full depth after the installation, before cracking occurs. Protect Wall Mix from rain for 24 hours after placement. Utilize a fixed point or edge, such as level finished sidewalk, a level floor or deck, or the level top of a wall, to guide placement of the stamping tools. Snapping a string line will also work. Push the stamping tool into the Wall Mix until there is a uniform distribution of material along the stamp tool surface. Uniform distribution is achieved when

the stamping tool resists deeper embedment. Hand press, but do not aggressively tamp the stamping tool. Press the stamp tool into the surface, but do not slide the tool back and forth. Do not pull the stamp straight to avoid vacuum effect, peel a side a bit to release the air first. Keep the stamping tools clean and reapply the liquid release agent during the imprinting process to eliminate sticking. If some of the wall mix extrudes from around the edge of the stamping tool during imprinting, it can be removed or contoured by hand carving after the stamping process is completed. If an excessive amount of material is squeezed outside the edges of the stamping tool, consider delaying the imprinting process until the wall mix stiffens slightly before continuing.

When stamping an inside corner, utilize a floppy mat to apply texture into the corner, followed by the stamp tool for the deeper joint. The areas closest to the corner can be hand carved or detailed to extend the joints directly into and around the corner. For outside corners, stamp past the edge of the corner, then with the same tool, stamp the adjacent surface around the corner. Vertical grout lines too close to the edge can be smoothed over during hand carving.

7.3 Hand Carving: If desired, Wall Mix can be hand carved or sculpted between 4 and 8 hours after installation to remove any imperfections or as the primary creative technique, instead of stamping or texturing with a stamp or texture tool. Carving time will vary widely depending on temperature, humidity, and overlay thickness. Surface imperfections and joint shape may also be smoothed or contoured with a finger or dampened paint brushes.

8. Curing:

Wall Mix is self-curing. However, during hot weather or windy conditions, fog misting or polyethylene sheets may be used to minimize plastic shrinkage cracking. Shrinkage cracks can be repaired by Repair Mix and Micro Flex. The method of curing may affect the final color of Wall Mix. Verify the curing method and timing with a mock-up. Once the curing method has been determined, utilize it consistently throughout the installation. Curing time varies with ambient and substrate temperatures, and humidity. 7 days of initial curing period is advised before exposure to freeze/ thaw cycling.

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Technical Data Sheet (TDS)

Product Name
Flex-C-Ment™ WALL MIX

9. Declared performance
WALL MIX GREY

Essential Characteristics	Performance			Harmonized Testing Procedure
	1	2	Mean value	
Consistency – flow table test (mm)	155	157	**156**	SIST EN 1015-3
Dry bulk density (kg/m^3)	1470	1480	**1480**	SIST EN 1015-6
Air bubble contents (vol.%)	20,0	19,5	**20,0**	SIST EN 1015-7

Essential Characteristics	**Performance**							**Harmonized Testing Procedure**
	1		2		3		Mean value	
Bending strength (N/mm^2)	4,1		4,4		3,8		**4,1**	EN 1015-11
Compressive strength (N/mm^2)	13,2	12,4	12,8	12,9	13,3	12,9	**12,9**	EN 1015-11

Essential Characteristics	**Performance**				**Harmonized Testing Procedure**
	1	2	3	Mean value	
Dry density (kg/m^3)	1260	1260	1260	**1260**	EN 1015-10

Essential Characteristics	**Performance**							**Harmonized Testing Procedure**
	1	2	3	4	5	6	**Mean value**	
Capillary water absorption coefficient C_m (kg/m^{2}min^{0,5})	0,10	0,15	0,10	0,15	0,15	0,15	**0,15**	EN 1015-18

Essential Characteristics	Performance	Harmonized Testing Procedure
Water vapor diffusivity Λ (10^{-10} kg/m^{2}sPa)	1,742	EN 1015-19
Water vapor permeability W_{vp} (10^{-12} kg/msPa)	3,833	EN 1015-19
Water vapor diffusion résistance coefficient μ	**52**	EN 1015-19

Where pursuant to Article 37 or 38 the Specific Technical Documentation has been used, the requirements with which the product complies: **Not applicable**

10. Declared performance
WALL MIX WHITE

Essential Characteristics	Performance			Harmonized Testing Procedure
	1	2	Mean value	
Consistency – flow table test (mm)	159	158	**159**	SIST EN 1015-3
Dry bulk density (kg/m^3)	1500	1470	**1490**	SIST EN 1015-6
Air bubble contents (vol.%)	20,0	19,0	**19,5**	SIST EN 1015-7

Essential Characteristics	Performance							Harmonized Testing Procedure
	1		2		3		Mean value	
Bending strength (N/mm^2)	4,1		4,5		5,1		4,5	EN 1015-11
Compressive strength (N/mm^2)	18,1	18,1	17,9	18,1	18,1	17,9	18,1	EN 1015-11

Essential Characteristics	Performance				Harmonized Testing Procedure
	1	2	3	Mean value	

Dry density (kg/m^3)	1310	1290	1310	**1300**	1310

Essential Characteristics	**Performance**							**Harmonized Testing Procedure**
	1	2	3	4	5	6	**Mean value**	
Capillary water absorption coefficient C_m (kg/m^{2}min^{0,5})	0,10	0,10	0,10	0,10	0,10	0,10	**0,10**	EN 1015-18

Essential Characteristics	**Performance**	**Harmonized Testing Procedure**
Water vapor diffusivity Λ (10^{-10} kg/m^{2}sPa)	8,255	EN 1015-19
Water vapor permeability W_{vp} (10^{-12} kg/msPa)	1,734	EN 1015-19
Water vapor diffusion résistance coefficient μ	**116**	EN 1015-19