

INDUSTRY: ENGINEERING

**BOQ**

ITEM NO	DESCRIPTION OF THE ITEMS	UNIT
2.1	<b>PRODUCTION AREA</b>	
	<b>Option-1</b>	
2.11	<b>Epoxy Self Levelling Topping for 2.0 mm - Nitoflor SL2000</b>	Sqm
a.	<p><b>Surface Preparation:</b> It is essential that <b>Nitoflor SL2000</b> is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product or its primer.</p> <p>New concrete floors: New concrete, or cementitious substrates, should be at least 28 days old and have a moisture content not exceeding 5%. Laitance deposits on new concrete are best removed by light grit blasting, mechanical scrubbling or grinding.</p> <p>Old concrete floors: Existing concrete floors which require refurbishment must be prepared to ensure a strong adhesive bond between the flooring system and the existing floor. Mechanical cleaning methods are strongly recommended particularly where heavy contamination by oil and grease has occurred or existing coatings are present. To ensure adhesion, all contamination should be removed.</p> <p>Alternatively, blasting techniques can be used to provide the required substrate.</p>	
b.	<p><b>Priming:</b> All surfaces treated with <b>Nitoflor SL2000</b> should be primed with <b>Nitoprime 25</b>, a solvent based epoxy resin primer designed for maximum absorption and adhesion to concrete substrates. Add the entire contents of the hardener tin to the base tin and mix the two primer components thoroughly for at least 2 minutes - under no circumstances should part mixing be considered. Once mixed, the primer should be applied immediately to the prepared substrate using stiff brushes and/or rollers. The primer should be well 'scrubbed' into the substrate to ensure full coverage, but care should be taken to avoid over application or 'ponding'. Allow the primer to dry (see table below) before proceeding to the next stage, do not proceed whilst the primer is 'tacky' as this will lead to unsightly marks in the finished surface. Porous substrates may require a second primer coat - when the first coat is directly absorbed into the substrate - but minimum over coating times must still be observed (see table below). The minimum over coating times will vary slightly according to the porosity of the substrate. However, they should be in accordance with the following ambient application temperatures.</p>	
c.	<p><b>Epoxy Topping:</b> Providing mixing and laying to the designated floor areas shall be surfaced with Nitoflor SL2000, a 2 mm thick flow-applied epoxy resin floor topping. Nitoflor SL2000 consists of graded aggregates bound in a pigmented epoxy resin binder. It is supplied as a four component system, pre-weighed for on-site mixing. When laid, it provides a smooth, light-reflective surface. It is available in a range of standard colours. The topping shall achieve a minimum compressive strength of 40</p>	

	<p>N/mm<sup>2</sup> and a flexural strength of 25 N/mm<sup>2</sup> at 7 days when tested to BS6319. Slip resistance : 91.3 &amp; 135.6 (As per TRRL skid test in accordance with BS 6677 : Part 1:1986, Shore D Hardness as per (ASTM D 2240) : 80 .Abrasion resistance : 0.1mg/cycle-loss of weight (ASTM D 4060) (with CS 17 wheel of 1000g weight) . Adhesion Strength @ 7 days (ASTM D412) : &gt; 1.0N/mm<sup>2</sup>. It shall be capable of accepting foot traffic at 24 hours and vehicular traffic at 48 hours. Cost Inclusive of Supply, apply Equipment's. Exclusive of GST as applicable, Client shall provide storage, power, water, etc. Flooring work shall be executed by Fosroc Authorised Applicator.</p>	
	<b>Option-2</b>	
2.12	<b>Epoxy Underlay Nitoflor EU5 at 2.0mm + Epoxy Self Levelling: Nitoflor SL 1000 at 1.0mm. (total - 3.0mm thick)</b>	Sqm
2.13	<b>Epoxy Underlay : Nitoflor EU5 is designed for application in the range of 2.0 mm</b>	
a.	<p><b>Surface Preparation:</b> It is essential that <b>Nitoflor EU5</b> is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product.</p> <p><b>New concrete floors:</b> Should be at least 28 days old with a maximum moisture content not exceeding 5%. Laitance deposits on new concrete floors are best removed by light grit blasting, mechanical scabbling or grinding.</p> <p><b>Old concrete floors:</b> Mechanical cleaning methods are strongly recommended on old concrete floors particularly where heavy contamination by oil and grease has occurred or existing coatings are present. These may well have been absorbed several millimetres into the concrete. To ensure adhesion, all contamination should be removed by the use of a proprietary chemical degreaser</p>	
b.	<p><b>Priming:</b> Priming is not normally required provided the substrate is sound, untreated, dry and good quality concrete. If any doubts exist of the quality of the concrete, contact the local Fosroc office for advice. For highly absorbent concrete substrate, <b>Nitoprime 25</b> shall be used to seal the pores.</p>	
c.	<p><b>Epoxy Underlay:</b> Providing mixing and laying to the designated area the epoxy underlay, <b>Nitoflor EU5</b> consists of special resins and graded aggregates formulated to withstand chemical attack and impact shock. Shall be supplied as a 3 component system comprising resin base, resin hardener and fillers. When correctly laid Nitoflor EU5 will provide a surface ready to receive applications of other Fosroc flooring systems. Epoxy Underlay shall achieve a minimum compressive strength of 60 N/mm<sup>2</sup>, Flexural strength of 20 N/mm<sup>2</sup> and Tensile strength of 10N/mm<sup>2</sup> @ 7 days. The underlay shall have nil water absorption when tested as per BS1881 Part 122-1983. The adhesion strength of the epoxy underlay shall be greater than the tensile strength of concrete. Cost Inclusive of Supply, apply, equipment. Exclusive of GST as applicable,. Client shall provide Storage, Power, water, etc. Flooring work shall be executed by Fosroc Authorised Applicator.</p>	
2.14	<b>Epoxy Self Levelling Topping over Epoxy Underlay for 1.0 mm - Nitoflor SL1000</b>	
a.	<p><b>Priming:</b> All surfaces treated with <b>Nitoflor SL1000</b> should be primed with Nitoprime 25, a solvent based epoxy resin primer designed. Add the entire contents of the hardener tin to the base tin and mix the two primer components thoroughly for at least 2 minutes - under no circumstances should part mixing be considered. Once</p>	

	<p>mixed, the primer should be applied immediately to the prepared substrate using stiff brushes and/or rollers. The primer should be well 'scrubbed' into the substrate to ensure full coverage, but care should be taken to avoid over application or 'ponding'. Allow the primer to dry (see table below) before proceeding to the next stage, do not proceed whilst the primer is 'tacky' as this will lead to unsightly marks in the finished surface. However, they should be in accordance with the following ambient application temperatures.</p>	
b.	<p><b>Epoxy Topping:</b> Providing mixing and laying to the designated floor areas shall be surfaced with <b>Nitoflor SL1000</b>, at 1.0 mm thick floor-applied epoxy resin floor topping. Nitoflor SL1000 consists of graded aggregates bound in a pigmented epoxy resin binder. It is supplied as a four component system, pre-weighed for on-site mixing. When laid, it provides a smooth, light-reflective surface. It is available in a range of RAL K5 classic colours. The topping shall achieve a minimum compressive strength of 50 N/mm<sup>2</sup> and a flexural strength of 25 N/mm<sup>2</sup> at 7 days when tested to BS6319. At 27°C, it shall be capable of accepting foot traffic at 24 hours and Light vehicular traffic at 48 hours. Cost Inclusive of Supply, apply, equipment. Exclusive of GST as applicable. Client shall provide Storage, Power, water, etc., Flooring work shall be executed by Fosroc Authorised Applicator.</p>	
2.15	<p><b>Epoxy Coving- Nitoflor TF5000 : Size 75mm x 75mm</b></p>	rmt
a.	<p><b>Surface Preparation:</b> Removing all laitance and any surface sealer or curing membrane by mechanical means such as shot-blasting, grinding or light scabbling to the level of sound concrete After surface preparation, all loose debris and dirt should be removed by vacuum equipment.</p>	
b.	<p><b>Priming:</b> Priming is not normally required provided the substrate is sound, untreated, dry and good quality concrete. If any doubts exist of the quality of the concrete, contact the local Fosroc office for advice. For highly absorbent concrete substrate, <b>Nitoprime 25</b> shall be used to seal the pores.</p>	
c.	<p><b>Epoxy Coving:</b> All the right angle junction on the floor and walls has to be provided with coving using <b>Nitoflor TF5000</b> a three part solvent-free combination of epoxy resin, modified amine hardeners filled with specially graded and selected high crushing strength, chemically inert aggregates with properties Compressive strength BS 6319-Pt 2 - 70 N/mm<sup>2</sup>, after application of prime coat with <b>Nitoprime 25</b> over the prepared surface. Followed by <b>Nitocote VF</b> epoxy putty for a smooth finish on the cover, to receive the finish coats using <b>Nitoflor FC 150</b>, a solvent free high build epoxy of the approved shade shall be applied with roller brush or paint brush. Work shall be executed by Authorised applicator with supply &amp; application and completed as per the manufacturer's Specification.</p>	
2.16	<p><b>Expansion joints</b></p>	rmt
a.	<p><b>Surface preparation:</b> Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae, Oil and grease deposits should be removed by mechanical means.</p>	
b.	<p><b>Priming:</b> Prime sealing slot surfaces with Primer No. 20 using a clean dry brush. Colpor 200 must be applied between 30 minutes and 2 hours after priming.</p>	
c.	<p><b>PU Sealant:</b> Providing mixing and laying PU Sealant at the designated joints are to be sealed using Fosroc <b>Colpor 200PF</b> over the Backer rod of <b>Expancel</b> which shall position on the <b>filler board of Hydrocel XL of the Expansion joint</b> , pavement</p>	



sealant manufactured by Fosroc to BS 5212: 1990 and U.S.Federal Specification SS-S 200E:1984.. Colpor 200PF has a **movement accommodation factor of 30% in butt joints**.. To ensure the sealant operates within its stated **movement capacity of 30%**, the width of sealing slots should be designed in accordance with the recommendations of IRC-57-2006. In trafficked **areas the expansion joint width should not generally Exceed 30 mm**.

**Joint depth:** In trafficked areas the sealing slots should be constructed so that at no time during the anticipated operating cycle of the joint will the sealant protrude above the surface of the concrete pavement. It is necessary to recess the level of the sealant 5 to 8 mm below the pavement surface, dependent on the time of year and temperature prevailing at the time of sealing.

**Note:** The width to depth ratio of the Colpor 200PF seal should be 1:1 to 1½:1 subject to a minimum 10 mm depth of sealant (example, contraction joint: 15 mm wide x 13 mm depth; expansion joint: 25 mm wide x 20 mm depth). Complete as per the manufacturer Instruction. Cost Inclusive of Supply, apply, Equipment's. Exclusive of GST as applicable. Client shall provide Storage, Power, water, etc. Flooring work shall be executed by Fosroc Authorised Applicator.