

Typical Detail Drain Outlet - Wet Areas









GRP Lining Waterproofing

GRP lining is a hose relining method in which the in liner used is a seamless glass fiber fabric hose. GRP lining can be used to rehabilitate sewers with damage such as root penetration, deposits, socket offset, cracks and pipe fractures.

Once the existing pipe has been cleaned and inspected by a camera, it is prepared for rehabilitation with milling and smoothing robots, which pulls the folded in liner hose into the existing pipe through a shaft. When subjected to compressed air the in liner unfolds and applies it self to the inside wall of the existing pipe. The curing method is selected according to site conditions-using either ultraviolet light or a mixture of air and steam. Unsaturated polyester resins or vinyl ester resins are used, depending on the level of exposure to chemicals. The curing process is continuously monitored and recorded with the help of automated devices.

Details of Raw Materials for GRP Lining

Glass Fiber-Chopped Strand Mat (CSM) Resin Orthophalic Polyester Resin NCS 985 PA Catalyst Norpol MEKP

Process Description Grinding

After concreting many irregularities on the f surface remain and lamination is carried out on a such surface finishing on the outer surface li will be inferior. Hence, surface grinding of concrete has to be done, if necessary. This removes all a irregularities and the surface becomes clean Moreover, the grinded surface has more porosity which will ensure a stronger bonding with resin

Dust Removal

After grinding, concrete powder and debris accumulate and this has to be removed as it gets entrapped between the lining and the surface. Hence, the concrete surface is to be cleaned properly with acetone and it is ensured that no impurities are entrapped



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Lamination

Process of lamination for open areas of benching

- After the surface preparation and removal of dust, first coat of resin is applied on the concrete surface Care is taken to see that the resin fills all voids in the concrete surface so as to avoid the formation of air bubbles.
- One coat resin is applied on concrete surface. Then first pre-trailed layer of glass fiber (CSM) is placed on the resin applied surface.
- A woolen roller is used for applying the resin on the mat,
- Second layer of glass fiber (CSM) is placed the first layer with resin applied over it.
- Metallic roller is used to impregnate the lamination and to remove an air
 entrapment
- Sufficient time is allowed for successive glass fiber impregnation to avoid peak exothermic heat.
- Successive layer is applied on the already impregnated lamination with thickness condition for better bonding between the layers. The procedure is repeated until required thickness is achieved
- Finally top coat will be applied on the cured lamination.



Warehouse & Metal Roofing System

A metal roof, often referred to as a tin roof, is a roofing system made from metal pieces or tiles. It is a component of the building envelope and often used to cover large buildings because of their high strength to weight ratio

Metal sheet roofs are very affordable, durable, and quick to install, which makes their use extremely popular in the construction of commercial and industrial buildings. The major problem with metal roofs in warm weather is that they absorb and retain enormous quantities of heat. In non-air-conditioned buildings, this translates directly into high building envelope heat loads, temperature and moisture build-up. In air-conditioned buildings, it means higher a energy costs as the air-conditioning has to fight the heat that builds up during the day, even when the sky is overcast (ultraviolet rays, the major source of heat from solar radiation, will penetrate clouds). Because buildings with metal roofs are hotter than the things around them, they contribute to the urban heat island effect A metal sheet roof in tropical countries, for example, can reach a temperature above 75 oc I 167 of and the second major problem is the leakage throughout the seams and joints will cause serious deterioration, rust, corrosion and severe structural damage

Pile Head Treatment System

A pile cap is a thick concrete mat that rests on concrete or timber piles that have been driven into soft or unstable ground to provide a suitable stable foundation. It usually forms part of the foundation of a building, typically a multi-story building, structure or support base for heavy equipment. The cast concrete pile cap distributes the load of the building into the piles. A similar structure to a pile capes a "raft "which is a concrete foundation floor resting directly onto soft soil which may be liable to subsidence.

The Advantage of Pile Head/Cap Treatment:

The Pile Head Treatment is the final working step of a successful piling and foundation system. Every pile has to be protected against chloride ag and sul phate attacks on the reinforcement caused by the soil and groundwater. It also has to assure that there will be no passage of water from the ground to the substructure. A proper designed system shall include: Re-profilling, waterproofing and full encapsulation of the entire pile head to issue that each and every structure is based on a long lasting and safety built foundation



Light Weight Foam Concrete Service

Foam is a type of According to its features and uses it is similar to concrete. The synonyms at Aerated concrete Lightweight foam concrete

Porous concrete

Foam concrete is created by uniform distribution of air bubbles throughout the mass of concrete Foam concrete is produced by mechanical mixing of foam prepared in advance with concrete mixture, and not with the help of chemical reactions Foam is prepared in special device foam generator and after that mixing in special mixer. (For example machine Foam Prof consist from special mixer and foam generator mounting together).



Foam Concrete is normal concrete with bubbles of a inside Therefore it has the same characteristics with many additional advantages Also CLC can be produced and poured for floors and roofs on-site in roofs can be used because of very good insulating and lightweight. For floors CLC offers faster installation and a less expensive option because of the flowing and self-leveling properties

Cementitious & Fibrated Waterproofing

Cementations systems generally are available as ready to apply. The two components systems consist of a resin base which is normally an acrylic co-polymer with water proofing properties and a cementations powered roller or by spray A fabric scrim we suggested over expansion joints to protect the layer from tensile thermal expansion on the roof.

Cementations systems are also applied over spray applied polyurethane thermal insulation as a



protective layer, as these systems possess high resistance to UVrays. Since application skills require are minimum maintenance minimum, they highly popular among contractors. However, it should be noted that the waterproofing and durability membrane and care should be exercised in choosing one with adequate co-polymer content

Water Tanks & Swimming Pools

When constructing a new water tank or swimming pool, it is possible to apply the waterproofing system to the internal (negative) or external (positive) side of the wall In many cases, combined systems are specified to provide enhanced protection. Our clients can avail from us water tanks & swimming pools waterproofing services. These services help in enhancing the life of the water tanks/swimming pools by avoiding water from damaging the walls. Our skilled workers perform two chemical coat systems with fiber mesh on the tanks swimming pools. The coating done is highly insoluble in the water. These services are accomplished in less time period and come with a warranty of five years

Recommended used materials:-

- Cementitious Coating
- Crystalline Coating
- Epoxy Polysulfide Coating

Thermal Insulation Service

The accelerated constructional activities coupled with the ever increasing demand for economical and comfortable living encourages us to adopt the latest scientific and technology advancements, Hence we have chosen the concept of the Thermal Insulation system, which plays a vital role in improving the cooling conditions inside build- This definitely reflects on power consumption and money involved for all parties concerned in the construction process.

Thermal Insulation system has been introduced to reduce your electric consumption costs up to 4096, thus saving money and the country's energy resources. It also indeed creates a more comfortable living and working atmosphere.







Injection Treatment

All materials whether loose or on pallets have to be stored in a covered area and protected from UV and sunlight. Damage to the material maybe caused due to improper storage and at high temperatures

Application of materials should be avoided in case of extreme weather conditions like sand storm or .C 45 C and 5 rain. The ambient temperature during application should be between

Process Description

Surface Requirements

angle & adjacent to the pipe penetration In the presence of 45 Drill the hole adjacent to the crack in running water the flow must be stopped using POLYINJECT STOP or POLYNJECT STOP FS which produces rapid setting water-stopping foam. When the water is stopped the cracks are re-injected .+with POLY INJECT PU

Work Preparations

C pumps The-1 POLYINJECT PU+ is applied as injection resin with using injection packers and injection packers may be fixed into holes drilled directly into the crackor drilled diagonally from concrete adjacent to the crack or by fixing of injection nipples bonded to the surface using POLYPUR F on damp surfaces or POLYPOXY BF on dry surfaces. For further assistance and instructions regarding the packer fixing and design please refer to our method statement

Mixing

Pour the hardener (component B) into the resin (component A) in the indicated mixing ratio and rpm) until a homogenous mixture is produced. Assure that 300 .mix with an electrical mixer (max the B component is evenly dispersed. Only mix sufficient resin that can be used within the pot life of the material

Injection

component injection pumps. The 2 component or-1 POLYINJECT PU+ can be injected with using bars. After the work is finished the injection system shall be 4 injection pressure should be at least .hours and shall be left undisturbed for this time 24 allowed to cure for

Cleaning

Remove the packers once POLYINJECT pu+ is fully cured and make good any holes or voids with POLYPOXY BF on dry surfaces and allow curing. In case of damp surfaces use POLYPURF. I POLYINJECT PU+, POLYPOXY BF and POLYPUR F should be removed from tools, equipment and mixers with an appropriate solvent immediately after use. Hardened material can only be removed .I mechanically





LICENSE & APPROVALS



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