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DRYCOTEC

Drycotec Diaries





AVEBE STARCH ETHERS

Helping you make better dry mortars.

STARCH ETHERS FOR **DRY MORTARS**

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seed potato for starch ethers

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SOLVITOSE®

CASUCOL®

ADDILOSE®

SKIM COAT

TILE ADHESIVE

RENDER

PUTTY

JOINT FILLER

SPRAY MORTARS

Applications: Cement Skim Coat & Putty Tile Adhesive **Manual Renders Spray Renders** Repair Mortar

Self Levelling Mortar

Workability Anti slip / Anti-Sag Thickening Open time Adjustment time Reduce chalking

Benefits: Cement

Cost reduction Bounce back reduction Applications : Gypsum

Manual Plaster Finishing plaster Spray plaster Joint filler **EIFS**

Spot Glue

Benefits: Gypsum

Anti-sag Thickening Workability Working time **Smoothness** Surface hardness Reduce chalking Time saving









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* Benefits are also dependent on quality of ingredients, formulation and optimisation of blend.

SPEED AND QUALITY: AVEBE STARCH ETHERS IN DRY MORTARS (CEMENT & GYPSUM) - JAGDEEP SINGH

In the fast-growing Indian market, speed & quality (workmanship and product) are becoming key factors, as they lead to cost savings by getting a job done fast and doing it right the first time. Avebe starch ethers help in this aspect by supporting the use of (amongst other applications) spray mortars (renders and skim coat) with sag resistant properties, easy trowelling and improving coverage as well as improving the open time and spreadability of CTA's, which allow applicators to apply the CTA on a large wall area quickly and easily and then quickly affixing tiles onto the wall at one go, without the tiles slipping and improved tile coverage.

There are **three core additives in dry mortars**. Starch Ether, Re-dispersible Powders and Cellulose Ethers. They all perform critical functions in a dry mortar formulation and, complement each other in various ways. For best formulation optimisation, it is recommended to use an unmodified cellulose ether, correct re-dispersible powder and an optimised starch ether for your formulations.

AVEBE has been at the forefront in developing starch ethers for use in both cement and gypsum based dry mortars. Applications and benefits include

Applications : Cement Benefits: Cement Skim Coat & Putty Workability Anti slip / Anti-Sag Tile Adhesive Manual Renders **Thickening** Open time **Spray Renders** Repair Mortar Adjustment time Reduce chalking Cost reduction Bounce back reduction Spreadability **Speed of Application**

Applications : Gypsum Benefits: Gypsum Manual Plaster Anti-sag Finishing plaster **Thickening** Spray plaster Workability Joint filler Working time **EIFS Smoothness Spot Glue** Surface hardness Reduce chalking Time saving Spreadability **Speed of Application**

Starch ethers work by interacting with particles in a formulation to form a structure. This introduces a yield value and increases the plastic viscosity creating good anti-slip and anti-sag properties. The physical bonds in this structure are gentle enough to be broken under shear and recover almost instantly when the shear force is removed. This reversible structure (thixotropy) results in many performance benefits.

Shear rate (1/s)

AVEBE's researchers have created three types of starch ethers for various applications and performance requirements. They are generally Typed based on the consistency build up with respect to dosage.

Type 1

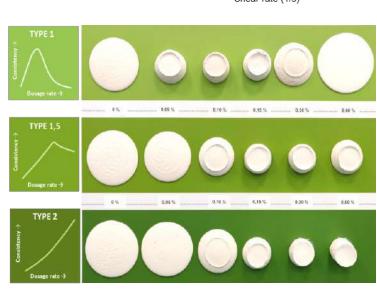
Casucol 301, Opagel CMT, Opagel FP6 The go-to grades for most applications

Type 1.5

Casucol FIX-1 large format tiles and C2 grades

Type 2

Solvitose H2060, Opagel FP 9, Addilose D5NP etc used for special applications.



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Editor's Page



We will be focusing on creating platforms, which would help our members and dry mortar professionals to gain knowledge & grow business. Some Concepts that I am working on are very interesting. As Drycotec, there is an immense scope and open opportunities for all. The World Of Concrete exhibition organised by Informa Markets was a grant success. Did you know that even if the title has the word "Concrete" in it, more than 30% presence was in mortars and related products. We had many companies that promoted DMM plant and equipment. The most interesting part was that there was a live demonstration of machine plastering in the exhibition.

B2P, a concept that is close to my heart. Blast-to-Plast, covers the entire process that begins from first stage which is blasting & till the last stage which could be plastering or any other mortar application. The mineral deposit in the mountain or below earth is removed by drilling & blasting, followed by crushing, screening, classification, weighing, batching, mixing, packing & finally application at site. It is very clear that if the blast is correct, the crusher benefits & entire process improves its efficiency.

IFAT gave us an opportunity to conduct the seminar on C&D W as te Management. Construction and Demolition Waste is a major problem. Travel on any road across the country and you will see debris of waste lying on the roads. The subject was so interesting that the hall was House Full & the audience was standing behind to hear our speakers and panellist. I would continue to work on this subject and so will the management of IFAT Exhibition.

CONSTRO, is a strong show, which was held in Pune once in every two years. From this year they have decided to have it every year. For promotion of this show, we are doing a series of short knowledge seminars on every 3rd Friday of the month. It is a two hour show with interesting topics related to our industry. We get excellent speakers who deliver their vast experience and core subject knowledge to the audience which consists of contractors. architects, engineers & students. An evening well spent.

QuarryForward, is another product that we have delivered with BC India exhibition. It addresses the needs and challenges of quarry and mines owners. This year we conducted our first seminar which was attended by 20 quarry owners and sponsored by 6 companies. I will be taking this further with additional work and involvement for year 2024. Good opportunities for all Sand makers.

Readers, please let me know if you would like to partner with us for any of the above events. It would be a great opportunity and a win-win for us. A Happy November to you all and a Happy Children's day to most of the children if not all....



ABOUT NEPTUNE

NEPTUNE is fastest growing group of industries having diversified Business segment for Project Engineering, Innovative Building Materials, Start-up Technology for Valuable waste & recycling and Infrastructure & Industries.

NEPTUNE is Pioneer engineering company providing equipment Turn-key Project & Project Engineering Services for Ceramics, Construction, Power, Steel & Recycling Industries.

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Neptune Started Manufacturing NC-Intensive Mixer in 2014 and 50+ NC-Intensive Mixers running Successfully worldwide specially in India, USA, Mexico & Middle East Countries etc.

ABOUT NEPTUNE PROTECH

Neptune Protech LLP. is a Sister Concern Company of Neptune industries Neptune Protech LLP, Provides "ONE STOP SOLUTION" for Dry Mix Technology for Products like dry mix mortar, Grouts, Thin Bad Mortar, Tile Adhesive, Wall Putty, Black Box, etc.

Mr. Sanjay Nikam & Mr. Soham Panchal are Two Directors of Neptune Protech LLP.





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- Fully automatic with plc control

NPO Make Centrifugal impact crusher specially designed for plaster sand production.

- · Produces cubical shape premium quality sand
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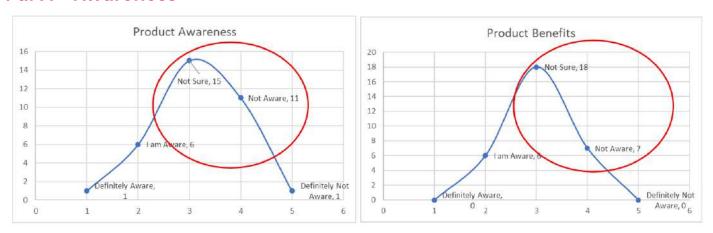
My Industry Diaries : Awareness & Acceptance of Grey Putty – <u>Mandar Chitre</u>

Background

Manufacturing of Sand in stone Quarries often lead to generation of fine dust which is in the range of 240 mesh (Below 75 Microns). This material is un-usable in concrete and is usually dumped away or mixed with coarse and fine aggregate. If this material can be collected & used as filler for manufacturing a Grey putty, it will solve multiple problems. The industry will get a cheaper alternative and pollution will be reduced. We asked a few key personalities in Mumbai Region on the awareness & acceptance of this dark grey putty.

The results of the survey are compiled as below.

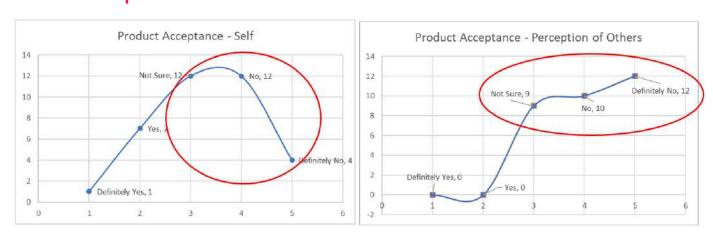
Part 1 - Awareness



The First Question was on the product awareness. This was to check if they know about wall putty which is not white in colour and can possibly produce the same results. As seen below, a majority of them did not know about wall putty not being white. This education was important for them. The performance of the product was also a big doubt. The discuss lead to some awareness but could not really break the ice.

The effect of white putty is certainly very strong. Our sample size though small did not put any thoughts about the putty begin dark in colour. The next challenge was to ask about the acceptance levels in the same group.

Part 2 - Acceptance



The acceptance levels were very poor. We could hear more of "No" & "Definitely No". I was aware that there would be a resistance to non-white putty but did not think that it would be so strong. The opinion about others accepting was stronger than self acceptance. This also indicated that even if I accept it, others will not accept. Also indicates that I am not accepting because I perceive that others will not be accepting it.

It is perhaps easier to sell an expensive product by showing benefits but difficult to introduce an alternate product which is cheaper and different from the existing product.

Part 3 - Reason



It was really surprising to understand that the reason for rejection was not the colour. They all accepted that it is the mindset which would need to change. The respondents agreed that the colour would be an issue but they also understand that primer will be able to cover it. This particular observation makes us believe that there is scope for this product to get established in the market and it has a future.

To Conclude

- It will be difficult to get an acceptance of this product in the market
- Change over from White to Dark Grey will incur major resistance
- Lot of work on changing the mindset will have to be done
- Free samplings & actual working of savings will have to be demonstrated
- · Market education programs will have to be introduced

Scope for Future Work

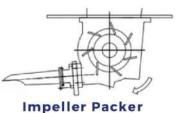
- This research was done in Mumbai & not in other areas
- Other parts of the country can be targeted for future research
- Different report in the rural areas where price sensitivity is higher.
- Gradual movement from rural to urban markets could be possible

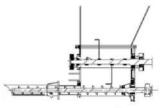


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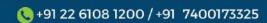
Highlights

Advanced Technology Exceptional Quality

Safety and Cleanliness Versatile Solutions

Expert Support User Friendly











Abhishek Panda is a Chartered Engineer, from Cuttack, India, He is a Structural Design Engineer and Founder of **AANKHE(AANKHE ENGINEERS LLP & AANKHE TRAINING CLUB)**

TYPES OF PLASTERING:

Following types of plastering is generally adopted in practice. Most of them are termed as per their finishing. Others are as per their number of coats and resisting capacity. They are described as below.

Sand faced plaster:

- This is a two-coat plaster in which the first coat of sand faced cement plaster is done with cement mortar in 1:4 (12 mm thick) with coarse sand after curing the plaster for seven days the second coat of cement plaster 1:1 (8mm thick) ratio will be done on the first coat.
- Sponge is used in the second coat, and it is applied when the second coat is wet. The surface of the final coat is finished by rubbing clean and washed sand of uniform size by means of wooden float. It ensures the uniform density of sand grain that appears on surface.
- Proper leveling is ensured and the surface is kept well-watered for at least 15 days.

Smooth cast plaster or plain face plaster:

- This finish is just similar to sand faced finish except fine grained sand is used instead of coarse grain sand and the ratio of cement to sand id kept 1:3.
- In this case no sponging is done since sand grains are required to be exposed.
- It is normally done on internal walls.
- For external walls, steel float is not used; instead, wooden float is used as steel float provides excessive smooth surface and hence the surface may crack due to environmental conditions.

Rough Cast Plaster or Spatter dash plaster:

- This plaster is a mixture of sand and gravel in specified proportion which is dashed over a freshly plastered surface.
- The plaster base consists of two coats, under layer 12 mm thick and top layer 10 mm thick having the cement mortar ratio 1:3. In the final coat of this plaster, concrete is used in the ratio of cement: sand: coarse aggregate as 1:1.5:3 (M20). The coarse aggregate is of the range 3mm to 12mm.
- The base is made more plastic, about 10% of hydrated lime by volume of cement shall be added while preparation of mortar.
- This finish is waterproof, durable and resistant to racking and crazing. Hence it may be used for external renderings.

Pebbled dash plaster:

It is similar to rough cast finish except clean pebble of size 10 mm to 20mm are dashed against the surface so that there are laid in position by mortar applied already. The mortar is in the proportion of 1:3 as cement: sand.

Washed stone Grit Plaster:

- This plaster is done in two layers, under layer of 12 mm cement plaster in 1: 4 ratio.
- This is furrowing the under layer with scratching tools applying cement slurry on the under layer at the rate 2 kg of cement/m2 and on the top layer 15 mm cement plaster of 1 cement: 0.5 coarse sand: 2 stone chipping 10 mm nominal size in panels with groove all around as per approved pattern.
- Top layer is scrubbed with brushes and washed with water to expose the stone chippings.

Depicter Plaster:

- This is just another form of rough cast finish.
- The rendering coat of 12 mm thick is prepared as usual in the case of pebbled dash finish.
- The coat is made wet; pieces of gravel are pressed with hand on the surface.
- Thus, it is possible to have beautiful patterns and ornamental designs on the surface by selecting materials of different colors.

Bonding Plaster:

This is the under coat or first coat plaster to be applied to a new (or to be patched) wall. When it is trowelled off, it is scratched with a nail to give a "key" for the top coat, or finish plaster to adhere to it. Bonding plaster has got high "stickability" and does not rely on an absorbent surface to bond to. Bonding has got advantages that it can be applied to really dense concrete blocks or engineering bricks and even concrete itself. These surfaces are where you would use bonding plaster as a scratch coat. Bonding does not need the wall underneath to be scratched or have a mechanical "key" and bonding agents, such as latex SBR adhesive are usually applied to the wall before the bonding plaster itself.

Browning Plaster:

Browning plaster is classified under undercoat plastering for use on more absorbent surfaces. Browning plaster works much better on surfaces with a mechanical key and you will often see brick layers "raking out" the joints of block and brick walls which are to have a Browning plaster covering.

One coat Plaster:

This is otherwise called as patching plaster. This plaster is a mix of binding plaster and multi finish. It is designed to fill patches in one go and can be "laid on" to far greater thicknesses than normal undercoat plasters; anything up to 50mm depending upon the manufacture process.

Multi finish Plaster:

This is a top coat plaster which is suitable for a great finish on all the other surfaces. Multi finish is an ideal for finishing plaster when there are a variety of backing surfaces to be covered.

Hard wall Plaster:

Hard wall is similar to Browning except that it offers a higher impact resistance and quicker drying surface. It is the most often used undercoat plaster these days, and can be applied to most masonry surfaces. Due to its impact resisting factor, it's mostly preferred in workshops and motor rooms or any such similar impact expected buildings.

Tough coat Plaster:

Even tougher than Hard wall type plaster as an undercoat plaster and has a greater coverage based on the nominal depth of 11mm. It's also suitable for most masonry walls. Some other type of plaster is **Dri-Coat Plaster** which is a cement based plaster and mostly used for resurfacing a wall after installation of new D.P.C. Similarly another type of plaster is **board finish plaster** mostly used on surfaces of low-medium suction. Another type of plaster is **external wall cladding plaster**, which is done by Dholpur stone. Another type of plaster is **Texture Finish** which is basically used with **stucco plastering** to produce ornamental works.

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SCAN FOR ENOUIRY



My Sand Diaries : Washed Plaster Sand : Article by Amol Sinha, Terex India Pvt. Ltd.

Our recent study on Terex washed plaster sand leads to some excellent results for wall plasters. This article would cover a few merits & demerits of washed plaster sand. Please do let us know if this was helpful for your business.

Product Costing

This product is available at Rs.800-Rs.1000 per ton depending on the area and the quality. You can also make your own washed plaster sand by putting a set up at your own plant. Write to us for more information — **amol.sinha@terex.com**. There are two ways to manufacture it. You could procure normal sand and wash it or buy aggregate to be crushed and washed in your plant. We will soon write more articles on the manufacturing process.

As per the State guidelines, the State - IDC has Orange & Red Zone areas. They permit the installation of stone crusher. The approximate break up of cost in case of a complete set up would be as below,



Product Gradations

The IS 1542, which is the standard created for plaster sand indicates that the following gradation is required,

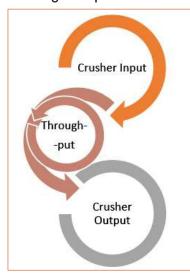
IS Sieve Designation (See IS 460 : 1985)	Percentage Passing		
10 mm	100		
4 ⁻ 75 mm	95-100	There are two reasons on	
2'36 mm	95-100	actual sand been different from	
1°18 mm	90-100	these specifications.	
600 micron	80-100	those specifications.	
300 micron	20-65		
150 micron	0-15		

Manufacturing Limitations

During manufacturing, the process has its own limitations. When the lower gradations, such as 600 Microns & 300 Microns are increased for production, it also increases the product below 150 Microns, which is limited in the standard only till 15%. This needs to be removed and generates wastage. Terex can help you minimize the waste & maximize the product.

In case the crusher owner wants to produce sand with 80% passing 600 Microns, the re-crushing will increase and almost 50% of the product will have to be discarded. The price will double but that is not the only problem. Disposal of this waste product is the major pollution hazard.

The logic of production reducing in crushers is as below,



Crusher input is always equal to output.

Throughput is the material which is inside the crusher while it is crushing.

The throughput of the crusher is always more than the input. This is the material which comes from the re-circulation.

Re-circulation increases when crusher has to delivery finer fractions.

Each crusher has a fixed capacity of throughput. Thus, when Recirculation increases, the input and output of the crusher reduces.

Perceptions of Masons

In case of sand which is 100% passing 1.18 mm, Masons have an objection. They are more comfortable with the sand having some particles which are larger in size. The 2 mm grain brings more bulk and strength to the plaster. This is actually a myth because usage of the right polymers can prepare excellent plasters with less than 1 mm grain size. This will also make the wall appear very smooth and reduce the requirement of wall putty.

Drying Process

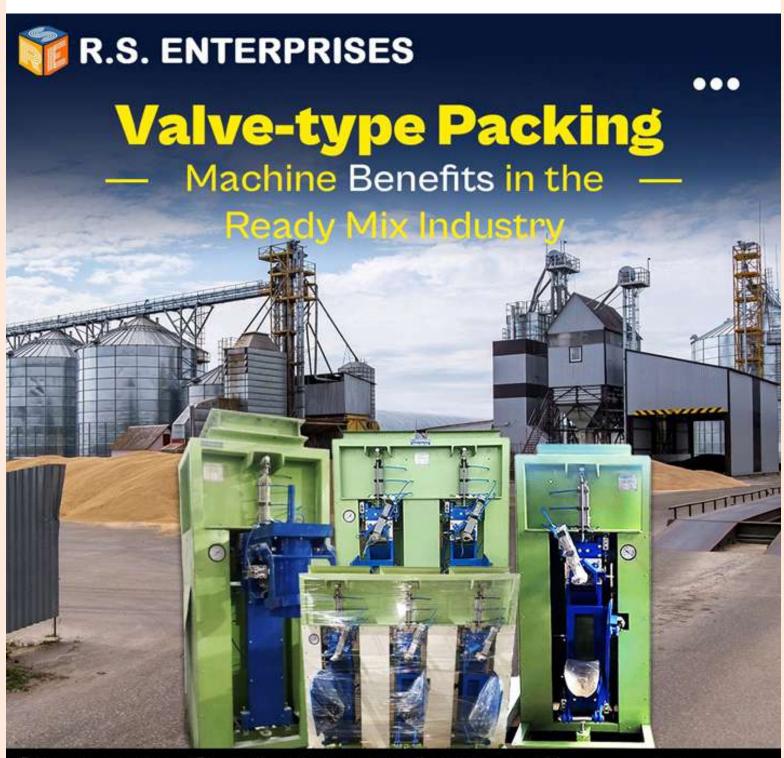
This wet washed sand contents up to 13% of moisture. Drying this product can be very expensive. The cost of drying can exceed 0.5 per kg. One of the solutions which is followed practically is sun drying. You will have to create a flooring for drying the sand which can be then collected after 2 days by a loader or by putting labour. This process reduces the moisture in the sand up to 3 %. The sand needs to be churned in between for better effects. Sun dried sand becomes an economically better product for ready plasters.

Merits

Washed Plaster sand is completely free from clay. This ensures crack free walls. The product is also free of other deleterious material and can be used directly in the mix. The product is easily available in areas where river sand is not present. It is also an all-season product. In monsoon most of the strong river sand areas also get short of supply. The washed sand from crusher is always available.

Demerits

The sludge of 50 Microns and clay produced after washing sand is costly to process and can create major problems to the environment. If the sludge is released in open, it can create a hazard specially for animals. I have myself witness a buffalo who got stuck in the sludge. The waste material of washing was carelessly deposited on the outskirts of the plant. Taking the buffalo out was a massive project which included crane and invited the wrath of the entire village.



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- Zero Moving Parts
- Modular Construction
- Flow Diffuser
- · Clean Water Weir
- Galvanised Ladder & Inspection Platform
- · Pressurised Water Flush Out System
- Sludge discharges under gravity (no pump required)

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WASHING AS IT SHOULD BE

Companies: Pursuit of Profit | 111

Cement Cos' Q2 Profitability to Surge on Strong Volumes

RIGHT MIX Industry to see an average rise of at least 50%; lower cost of power and fuel to also help boost earnings, say analysts

Mikita.Periwal@timesgroup.com

Mikita.Periwal@timesgroup.com

Mumbal: A strong year-on-year
growth in volume, along with lower cost of power and fuel is seen
boosting earnings of domestic coment producers in the September
quarter, with average profitability of the industry seen surging by
at least 50% compared to the previous year, said analysts.

While operating margins are seen lower on a sequential basis due
to weak seasonality, they could rise by as much as 400 - 600 basis points on an average year-on-year,
with ACC and Ambuju Cements
clocking in the best improvement.

"ACC and Ambuju would witness
higher EBITDA expansion due to
low base while we expect Ultralow base while we expect Ultraetch, Spreed on a margin expansion
in the range of 222-250.t. "Systematix Institutional Equities said.
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Better than Usual

with ACC and Ambuja Cements clocking in the best improvement. "ACC and Ambuja would witness higher EBITDA expansion due to low base while we expect Ultratech, Shree Cement and Dalmia constitutional demand was more robust, driven by increasing

nings note.

The cost of power and fuel, meanwhile, is seen lower by around ₹100-150 per tonne as compared to the previous quarter.

The September quarter is typi-cally weak for cement-makers given that monsoon rains hinder construction activities. Scanty rainfall across the country, espe-cially in August and September, though, has resulted in the Sep-tember quarter turning out to be stronger than usual acrosically in

tember quarter turning out to be stronger than usual, especially in terms of volume and pricing.

"Recent price hikes across India show that the Indian cement industry is maintainling pricing discipline despite strong demand. Usually the industry shows discipline during times of low demand, like monsoon quarter, as demand becomes inelastic to pricing," Nomura Financial Advisory and Securities said.

Helped by price hikes taken later during the quarter, cement prices averaged at around ₹370

per 50 kg bag, which is about 2.5% lower as compared to the June quarter. Last year, cement prices in the September quarter were over 5% lower as compared to the June quarter.

While cement companies are seen sustaining values crowth and

en sustaining volume growth and pricing power for another quarter or two, their profitability is seen under pressure given the recent surge infuel prices.

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Drymix Mortar Plant DMM 5/10/15/20/25/30 TPH

A dry mortar plant basically consists of a drying systems, loading system, conveying & weighing system, highly accurate weighing system to mix sand, cement and additives in required proportion where it finally gets the exact composition of the required mortar. Once it is prepared, dry mortar is available for bagging & reddy to be transported to market. Apollo manufactures 5 TPH, 10 TPH, 15 TPH, 20 TPH, 25 TPH, & 30 TPH capacity plants.

Standard Supply

- · Single bin Feeding Hopper 3 CM with conveyor
- Screen
- Bucket Elevator
- · Storage Silo for Sand with Accessories-1 No.
- Screw Conveyor for sand
- · Storage Silo for Cement with Accessories-1 No.
- Screw Conveyor for cement
- · Weigh Hopper for Sand
- · Weigh Hopper for Cement/Flyash
- · Plough Shear Mixer with Structure
- · Control Panel PLC, SCADA, Computer and printer with Cabin

On Request

- · Dryer with dust extracting system According to Plant capacity
- Storage Silo for Flyash with Accessories 1Nos.
- Screw Conveyor for Flyash
- Stationary Bag Packer Machine
- · Storage Hopper for dry mixed Mortar
- Chopper in Plough shear Mixer
- Pneumatic Sampling unit in Plough shear Mixer
- Lobe compressor
- Gyro Screen





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Is eco-friendly cement a better choice?

TIMESPROPERTY

Is eco-friendly cement a viable way to meet sustainable goals? We list everything you need to know about it

RITIKA.GONDHALEKAR

of late, 'sustainability' has been the buzzword in the real estate indus-try. While developers are try-ing to offer green amenities and and to offer green amenines and solutions, environmentalists say that this alone is not suf-ficient; using eco-friendly raw materials is equally important. Eco-friendly cement is thus gaining popularity.

What is eco-friendly

cement?
Traditional cement is majorly made of lime, silicon and
manganese. The reason why
it is non-sustainable and noneco-friendly is because of the way it is burnt during the man-ufacturing process at extremely high temperatures causing huge levels of carbon emissions. On the other hand, eco-friend-

ly cement typically does not use the exact same ingredients as regular cement. "In eco-friend-ly cement, the manufacturers make PPC (Portland Pozzolana Cement). This is nothing but the slag, which comes out when iron and steel are manufactured: a part of that slag is used as a binder to make eco-friendly ce-ment. It also uses fly ash, which helps reduce the demand for traditional raw materials like limestone, 'explains Abhijith R Priyan, CEO of a construction Priyan, CEO of a construction company. This thus requires lesser amount of calcium, sili-con, aluminium, and iron. "Eco-friendly cement also in-cludes carbon dioxide into its

composition, reducing the need composition, reducing the need for traditional clinker (nodular material produced in the kiln-ing stage of cement production) production, which is a major source of CO2 emissions," says



CARBON DIOXIDE
PRODUCED PER TONNE.
IN CASE OF REGULAR
CEMENT VS.
ECO-FRIENDLY CEMENT.

'On an average, traditional cement production emits around 0.5 to 0.9 tonnes of carbon dioxide per tonne of cement produced. In contrast, eco-friendly cement alternatives, such as fly ash-based or slag-based cements, can emit as low as 0.2 to 0.4 tonnes of carbon dioxide per tonne, contributing to reduction in carbon footprint," says Abhilith R Priyam, CEO of a construction company.

Cost and affordability

Cost and afterdability
The cost difference between regular cement and eco-friendly cement can vary based on factors
like location, availability of raw
materials, and manufacturing
processes. Generally, eco-friendly

cement production can be more cement production can be more energy-intensive, which might result in slightly higher production costs. However, as technology advances and the demand for sustainable construction materials increases, the price gap between the two types of cement is expected to decrease. Also, the long-term benefits, such as reduced carbon emissions and the long-term benefits, such as reduced carbon emissions and lower environmental impact, make it an attractive choice for developers who want to adhere to sustainability goals. Experts state that the cost difference is of just five-10 per cent. Though a bit expensive, it is like doing a long-term investment, which will yield higher returns in the long run," adds Priyan.

Is it feasible to keep producing eco-friendly cement from a long-term perspective? Environmentalists opine that

if the correct production methods are followed, it is possible ods are followed, it is possible to increase the production of eco-friendly cement and continue it in the long run as well. "Many scientists and environmentalists across the globe have been working round the clock to ensure ing round the clock to ensure least possible energy is used in production of various raw mate-rials including the green cement. Also, studies are being conducted to ensure fewer greenhouse gases are emitted and alternative raw materials are utilised. * 200 Aug. materials are utilised," says Ajay materials are utilised," says Ajay Katragadda, an environmentalist and former professor of Environ-mental Sciences at universities in Australia. Canada, and the US. And one of the biggest examples are the eco-friendly bricks and cement blocks that are now being produced.

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Drycotec Diaries is happy to have a very senior author & expert William Gilchrist write for us. Mr. Gilchrist is a mortar & concrete professional with more than three decades of experience. He is based in Coventry, West Midlands, United Kingdom. Since the last ten years, he is working with Colton Precast, head quartered at Birmingham. In this article, he speaks about the history of Adhesives. This is a very unique & interesting topic. I am sure the readers will enjoy it.

History of Adhesives

By definition an adhesive is any non-metallic substance applied to both surfaces of two separate items that binds them together resisting separation. A "sticky" afterthought, the earliest "adhesive" could this have been developed three billion years ago? A byproduct, or a mistake of human evolution, who knows.

Primordial cells produce a tacky outer membrane allowing them to stick to adjacent cells forming colonies. The first human use of adhesives dates back to 200,000 BC the Middle Pleistocene era. Neanderthals produced tars from the dry distillation of birch bark for use in binding stone tools to wooden handles. This birch-bark-tar is relatively easy to produce, involving burning the birch bark near smooth vertical surfaces in open air conditions. The first use of a compound plant-based adhesives was in 70,000 BC in Sibudu South Africa. This mixture of plant gum and red ochre (Iron oxide) produces a stronger product. The iron oxide prevents the adhesive from disintegrating in wet conditions. Tree resins were used as adhesives by Neolithic man as early as 6000 years ago in the repairing of clay pots used in ancient burial rites. Again, adhesives occur garnered from nature. The Egyptians used animal glues to bind artifacts together these were found in the tomb of King Tut. The human word first made known the use of adhesives around 200 BC. Sources were very detailed including materials and how to produce various adhesives.

The use of adhesives was very prevalent during the Roman and Greek Empires. Veneering and marguetry were discovered by who Roman or Greek? The Romans were never discoverers of new technology rather they adapted new technologies to their own needs. Putting it more bluntly, they stole them from other civilisations. Veneering and marguetry were solely a Greek invention, a technique to bind thin layers of wood with adhesive or the placing of precious materials (e.g. gold leaf) in a thin surface layer using an adhesive comprising of egg whites. The commonly used adhesive between the fall of the Roman Empire ad WW1 were created from animal tissue, hooves and hides. This jelly is cooked, dried and stored in powder form. In 1910 Cellulose Nitrate adhesive was patented, the first plastic compound.

Technical innovations have a toxic dark side. Overuse of rubber, plastic and cellulose, virtually indestructible has led to an ever-growing stranglehold as worldwide pollutants on civilisation today. A new threat MICROPLASICS looms large on the horizon. Mankind's rushing headlong towards its own self immolation.







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My White Diaries - Water Proof Wall Putty



Team Drycotec speaks to Anantha Krishnan Subraveti (AKS), the Dry Mix technology Guru. He has 28 years of hands on experience in the industry. AKS, is currently doing multiple roles in work and personal life. He has started his new innings & plans to hit a few more centuries with us. AKS has also successfully completed assignments some very big brands as a technical consultant. It is a pleasure for our readers to have him write for Drycotec Diaries. You can contact him on 9929991161

Great to know a new segment emerging in wall care putty namely "Water Proof Wall Putty".

The new creation is market innovation and customer centric approach by wall putty manufacturers. When cost optimization of wall putty is going as a competitive edge, market has been created for a high price water proof wall putty. This clearly shows customers are willing to pay a price for a value-added product. Now, one needs to understand the value addition to the new variant water proof wall putty.

The water proof quality in wall putty comes from special additives of polymers, silanes and silicone dry powders which basically do not affect technical properties and provides water proofing ability. Some additives improve technical properties in addition to water proofing properties.

The aim of this article is to share some thoughts on advantages of the product. This might help manufacturers a deeper insight to fine tune the product to bring more value addition consciously choosing the needed additives.

- Water proofing ability brings hydrophobic property where wet mortar putty pot life enhances and additives added for pot life can be reduced or even eliminated.
- The water proof ability keeps out the moisture entry in the putty bags thereby enhance shelf life of the product by 2 to 3 months.
- Resists Dampness to the wall and provides better appearance after painting.
- Time interval for painting after putty application is increased by at least 25 to 30%.
- Water proof paints applied on the surface will have better synergy with the putty surface and durability increases.
- Wet chalking resistance of wall putty increases significantly.

The product may be evolved to address special applications like sealant, where masons use putty to arrest water leaking areas. This is one place where putty is used by masons, otherwise putty is painters' baby.

No doubt the new segment has opened a gate for wall putty manufactures.



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