

## ENHANCED CEMENT STABILIZED SOIL BASES

### ZycoBond

ZycoBond - a UV and heat stable, cross-linkable soil modifier. TerraSil is designed to be utilised with ZycoBond that chemically binds soil particles together into a flexible crosslinked network. Chemical binding and nano size of the soft polymer leads to improved load bearing capacity and flexibility of the soil base.

## BENEFITS

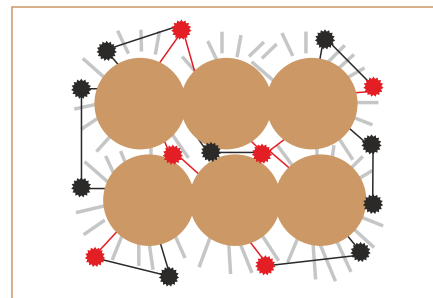
- Imparts Flexibility
- Improves Load Bearing Capacity
- Water Dilutable & Easy to Apply

## ZYCOBOND MECHANISM

ZycoBond is a 80 - 90 nm flexible acrylic co-polymer that has a very high surface area available for bonding. The higher number of contact points ensure flexible bonding at a nano level, leading to improved fatigue resistance in stabilized soils.

ZycoBond in combination with TerraSil imparts high strength and enhanced flexibility, thereby enabling dimensionally stable, non-deforming bases.

### TerraSil - ZycoBond - Cement Network



-  ZycoBond Particles
-  Cement Particles
-  TerraSil Treated Soil

## INCREASES STRENGTH

Soil bases that are modified with TerraSil and ZycoBond are superior in strength and have reduced water permeability in wet/soak conditions.

Sr.	Parameters	Measure	Soil w/o additive	Soil + Cement 3%	Soil + TerraSil 0.75 kg/m <sup>3</sup> + ZycoBond 0.75 kg / m <sup>3</sup> + Cement 3%
1	CBR	%	7	67	125
2	UCS	Mpa	0.27	1.02	2.43
3	Durability (Wet - Dry Cycles)	No. of cycles	0	4	12
		IS : 4332 (Part 4)	Fails	Fails	Passes (Simulates 20 years life)

## ZYDEX DESIGN

When TerraSil and ZycoBond are incorporated as part of the stabilized base, significant reduction in pavement thickness can be accomplished, while simultaneously enhancing the overall load bearing capacity. (3 - 5x enhancement in MSA)

This is accomplished by replacing the granular sub base and Wet Mix Macadam with a waterproofed and flexibly bonded soil-aggregate layer.

### CONVENTIONAL DESIGN

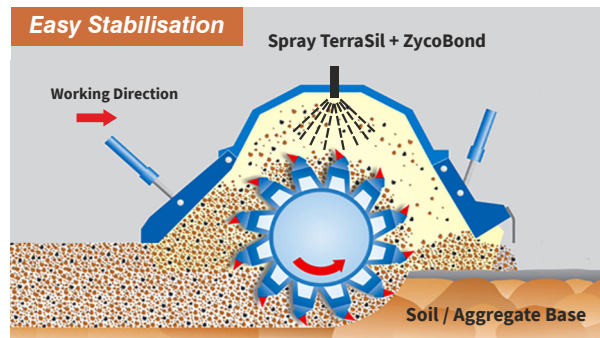


### ZYDEX DESIGN



## STABILIZATION METHODOLOGY

TerraSil and ZycoBond are mixed in situ with the soil as part of the water of compaction (OMC Water). Due to their ability to be introduced through water, the solution mixes and distributes into the soil extremely efficiently. The application as water solution helps to avoid dusting issues. Furthermore, due to the low dosage rates of TerraSil and ZycoBond, transportation costs to site are significantly reduced.



## STORAGE & SHELF LIFE

Store TerraSil and ZycoBond between 5° - 45 °C (41° - 113 °F) in a shaded, dry area away from sunlight, heat, source of sparks, rain and standing water. Fasten the container lid securely after every use. Its shelf life is 48 months. In case the product freezes at low temperatures, allow it to thaw and melt.

# EXCELLENCE



## Achievements

2001

- FGI award  
(Export excellence)

2013

- IRF Global Road  
Achievement Award  
(Innovation in Roads)

2014

- Marico Innovation Award  
(Innovation in  
Nanotechnology)

2018

- CII Innovation Award  
(Top 25 most innovative companies)

2011

- FGI award  
(Research in Science & Technology)

2014

- Inc India Innovation Award  
(Research category)

2016

- FGI Award  
(Best innovation in  
Agriculture Development)



## Certifications



Certified Company



ISO 9001:2015



ISO 14001:2015

## ABOUT ZYDEX

Established in 1997, Zydex is a specialty chemicals company with the purpose of innovating for sustainability. We are committed to creating a sustainable world through innovative, environment friendly and patented technologies in the areas of **AGRICULTURE, TEXTILES, PAINTS & WATERPROOFING and ROADS**. Our product portfolio encompasses 200+ innovative solutions with presence in over 40 countries across the globe.

### Sustainable Green Chemistry

Zydex is deeply committed to sustainable chemistries that will ensure a greener future for everyone. Our commitment has made us a pioneer in introducing non-polluting and non-hazardous technologies that conserve, protect and enhance the environment. Pursuing innovations that would mean a greener, safer and more resource renewable world is our passion. Our technologies have been recognized for their contribution to sustainability and are accepted globally.

## GLOBAL PRESENCE



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