



**ENVIRO
POZZO**





ENVIRO POZZO is the value added fly ash from **Gringotts Mines (India) Pvt Ltd** - a 100% Export Oriented Unit. ENVIRO POZZO processing plant located at Tuticorin is the distinctive processing plant in South India, has been certified to ISO 9001:2015 and using modern processing equipment.

ENVIRO POZZO is a Quality assured Classified Fly Ash in accordance to ASTM C618 / BS 3892 and it is exported to various satisfied customers in Middle East Asia, Far East Asia, Africa, Sri Lanka, Maldives etc.

Limitation of Unprocessed Fly Ash

Quality of the Unprocessed Fly Ash (directly from the thermal power station ESP hoppers) fluctuates with changes in coal mill and boiler condition and will be having inconsistency in the key parameters like Particle size, unburnt carbon content, Moisture content, etc.

Particle size of unprocessed fly ash is not guaranteed and will affect the end applications severely.

Presence of unburnt carbon will lead to negative undesired impact on the concrete, creating severe problem on workability, strength and durability and also increases the water demand.

ENVIRO POZZO - CLASSIFICATION

ENVIRO POZZO is produced by careful selection, beneficiation / classification and processing of coal based thermal power station fly ash at our modern plant with latest technology.

ENVIRO POZZO undergoes stringent quality control and provide quality fly ash with consistent and predictable properties.

ENVIRO POZZO is processed to deliver well controlled particle size. Particle size of ENVIRO POZZO is guaranteed and hence suitable for all the applications with higher replacement of cement in concrete application.

Though the international codes are allowing unburnt carbon (Loss on Ignition - LOI) up to 5%, **ENVIRO POZZO** is processed to deliver negligible unburnt carbon content with a maximum limit of 0.5%.

ENVIRO POZZO- Product Range

ENVIRO POZZO is available in different grades based on particle size distribution (Refer inserts for Product data sheets)

We can Produce fly ash to any fineness based on client requirement.



ENVIRO POZZO -Application

- Partial cement replacement in Ready mix concrete / mass concrete applications
- Suitable to directly mix with produced cement in manufacturing BLENDED CEMENT + Performance improver in manufacturing of Ordinary Portland Cement [OPC]
- Pozzolana material in manufacture of Portland Pozzolana Cement [PPC]
- Partial cement replacement /Performance improver in manufacturing of Roofing sheet (especially for non asbestos type). + Partial cement replacement /Performance improver in manufacturing of Brick, Hollow Blocks / Paving Blocks /Tiles

ENVIRO POZZO R12



PRODUCT SPECIFICATION SHEET

ENVIRO POZZO R-12 is produced by careful selection, beneficiation / classification and processing of coal based thermal power station fly ash at our **ISO 9001:2015 Certified** modern fly ash processing unit.

ENVIRO POZZO R-12 is a quality ensured classified fly ash - subject to strict quality control system right from the raw material stage to finished product.

ENVIRO POZZO R-12 is our finest grade complies to BS 3892 part I requirements



APPLICATION

Concrete (Partial cement replacement) :

Ready mix concrete, Plain and reinforced structural concrete with 28 day strength levels up to 50 MPa. Mass concrete, pre-cast concrete, pump able concrete and self-compacting concrete.

Cement:

- Blended Cement (Suitable for direct mixing with produced cement)

-Sulphate resistant/marine resistant cement (PPC)

Others:

Partial cement replacement in general purpose mortar for plastering and flooring

PROPERTIES	UNIT	ENVIRO POZZO R-12
Chemical		
SiO ₂ + Al ₂ O ₃ + Fe ₂ O ₃	%	70-92
SO ₄	%	2 (max)
Moisture	%	0.05-2
Loss on ignition	%	0.5 (max)
Na ₂ O	%	1.5 (max)
Total Chlorides	%	0.1 (max)
Physical		
Fineness (Retention on 325 mesh)	%	12 (max)
Strength Activity Index (Portland Cement)		
Comparative Compressive Strength at 28 days	%	80 (min)
Autoclave Expansion, Soundness	%	0.8 (max)

ENVIRO POZZO R20



PROPERTIES	UNIT	ENVIRO POZZO R-20
Chemical		
$\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$	%	70-92
SO_4	%	2 (max)
Moisture	%	0.05-2
Loss on ignition	%	0.5 (max)
Na_2O	%	1.5 (max)
Total Chlorides	%	0.1 (max)
Physical		
Fineness (Retention on 325 mesh)	%	20 (max)
Strength Activity Index (Portland Cement)		
Comparative Compressive Strength at 28 days	%	80 (min)
Autoclave Expansion, Soundness	%	0.8 (max)

PRODUCT SPECIFICATION SHEET

ENVIRO POZZO R-20 is produced by careful selection, beneficiation / classification and processing of coal based thermal power station fly ash at our ISO 9001:2015 Certified modern fly ash processing unit.

ENVIRO POZZO R-20 is a quality ensured classified fly ash - subject to strict quality control system right from the raw material stage to finished product.

ENVIRO POZZO R-20 is medium grade fly ash complies to ASTM C618 class F requirements

APPLICATION

Cement:

Partial cement replacement in general concretes

Others:

In accordance to ASTM C618 Class F

- Suits to all the application of ASTM C618
- Partial Cement Replacement and Performance improver in
 - Roofing Sheet Manufacturing
 - Cement Bricks and blocks manufacturing

ENVIRO POZZO R34



PRODUCT SPECIFICATION SHEET

ENVIRO POZZO R-34 is produced by careful selection, beneficiation / classification and processing of coal based thermal power station fly ash at our **ISO 9001:2015 Certified** modern fly ash processing unit.

ENVIRO POZZO R-34 is a quality ensured classified fly ash - subject to strict quality control system right from the raw material stage to finished product.

ENVIRO POZZO R-34 is medium grade fly ash complies to ASTM C618 class F requirements.



APPLICATION

Cement:

Partial cement replacement in general concretes

Others:

In accordance to ASTM C618 Class F

- Suits to all the application of ASTM C618
- Partial Cement Replacement and Performance improver in
 - Roofing Sheet Manufacturing
 - Cement Bricks and blocks manufacturing



PROPERTIES	UNIT	ENVIRO POZZO R-34
Chemical		
$\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$	%	70-92
SO_4	%	2 (max)
Moisture	%	0.05-2
Loss on ignition	%	0.5 (max)
Na_2O	%	1.5 (max)
Total Chlorides	%	0.1 (max)
Physical		
Fineness (Retention on 325 mesh)	%	34 (max)
Strength Activity Index (Portland Cement)		
Comparative Compressive Strength at 28 days	%	70 - 75 (min)
Autoclave Expansion, Soundness	%	0.8 (max)

ENVIRO POZZO R40



PRODUCT SPECIFICATION SHEET

ENVIRO POZZO R-40 is produced by careful selection, beneficiation / classification and processing of coal based thermal power station fly ash at our **ISO 9001:2015 Certified** modern fly ash processing unit.

ENVIRO POZZO R-40 is a quality ensured classified fly ash - subject to strict quality control system right from the raw material stage to finished product using **IS (Indian Standards)**.

The following are the economic grades with coarser particles



PROPERTIES	UNIT	ENVIRO POZZO R-40
Chemical		
$\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$	%	70-92
SO_4	%	2 (max)
Moisture	%	0.05-2
Loss on ignition	%	0.5 (max)
Na_2O	%	1.5 (max)
Total Chlorides	%	0.1 (max)
Physical		
Fineness (Retention on 325 mesh)	%	40 (max)
Strength Activity Index (Portland Cement)		
Comparative Compressive Strength at 28 days	%	70 - 75 (min)
Autoclave Expansion, Soundness	%	0.8 (max)

APPLICATION

Cement:

Pozzolana Portland Cement (To be ground along with clinker). Performance improver in OPC

Others:

- Road embankment
- Land filling
- Highway
- Used as raw material for Fly ash bricks/block manufacturing



ENVIRO POZZO R75

PRODUCT SPECIFICATION SHEET

ENVIRO POZZO R-75 is produced by careful selection, beneficiation / classification and processing of coal based thermal power station fly ash at our ISO 9001:2015 Certified modern fly ash processing unit.

ENVIRO POZZO R-75 is a quality ensured classified fly ash - subject to strict quality control system right from the raw material stage to finished product **IS** (Indian Standard).

The following are the economic grades with coarser particles

PROPERTIES	UNIT	ENVIRO POZZO R-75
Chemical		
$\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$	%	70-92
SO_4	%	2 (max)
Moisture	%	0.05-2
Loss on ignition	%	0.5 (max)
Na_2O	%	1.5 (max)
Total Chlorides	%	0.1 (max)
Physical		
Fineness (Retention on 325 mesh)	%	75 (max)
Strength Activity Index (Portland Cement)		
Comparative Compressive Strength at 28 days	%	70 - 75 (min)
Autoclave Expansion, Soundness	%	0.8 (max)



APPLICATION

Cement:

Pozzolana Portland Cement (To be ground along with clinker). Performance improver in OPC

Others:

- Road embankment
- Land filling

ENVIRO POZZO R-75 Grade is used as raw material for Fly ash bricks/block manufacturing.





ENVIIRO POZZO IN CEMENT

FEATURES	REASON	BENEFIT
More cementitious paste formation	Enables it to flow / mix easily.	More effective coating of the aggregates
Spherical shape of enviiro pozzo	Spherical shape behaves as ball bearing	Reduces the drag against each particle
Both the above features Increases the cohesion within the concrete mix		Reduced risk of segregation within concrete under vibration and pumping

IMPROVED PROPERTIES OF CONCRETE: Increased Workability

Low Heat of Hydration

Only part of the cementitious material (cement) reacts immediately with the addition of water and ENVIIRO POZZO concrete mix can be active only after the availability of sufficient free lime i.e., after a little while only. Hence the heat generated by chemical reaction at a given point of time is reduced.



Improved Impermeability

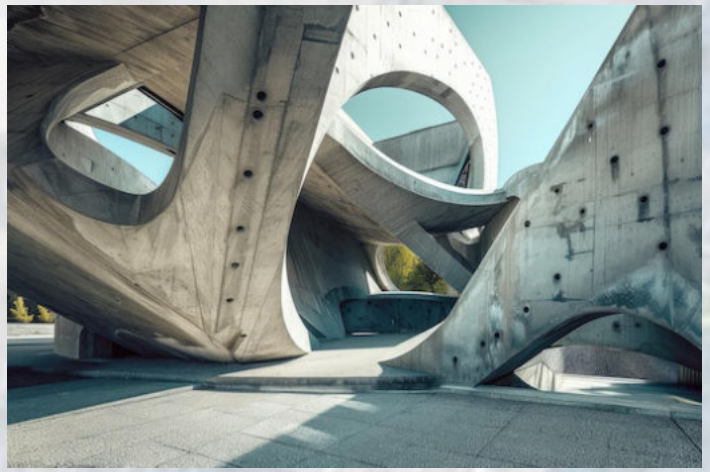
The strength development of ENVIIRO POZZO in concrete is slower than that of cement. Moreover the smaller size and spherical shape of ENVIIRO POZZO enables it to flow into the voids of cement matrix and thus use of ENVIIRO POZZO fills the gaps in cement matrix and significantly reduces the voids in concrete. Hence the impermeability of concrete is improved.

Settling Time

ENVIIRO POZZO in concrete mix can be active only after the availability of sufficient free lime liberated by cement. This delay in reaction reduces the rate of strength growth in the early hours after settling.



ENVIIRO POZZO



ADVANTAGES OF ENVIIRO POZZO IN CONCRETE

- Improved Workability benefits easy Handling, Placing, Compacting, Finishing and Transportation.
- Low Heat of Hydration benefits Reduced thermal stress / risk of surface crack, uniform concrete surface and high quality finish.
- Improved settling time allows more time for working and compacting the concrete mix, which reduces the risk of cold joints.
- Improved impermeability yields resistance to water penetration and attack to binder by salts and chemicals in water.
- Concrete in marine environment will usually be specified to contain a quality PFA component.
- Improved impermeability limits the degree of penetration of CO₂, and improves the life of reinforcement material from corrosion, which reduces the risk of concrete structure crack / failure.
- Concrete requires less water when fly ash (ENVIIRO POZZO) is used in place of cement resulting in improved water to cement ratio and less shrinkage and cracking.
- Improved lateral strength of concrete (Long-term strength gain).





INTERNATIONAL STANDARDS Vs ENVIRO POZZO

PROPERTIES	UNIT	ASTM C618 CLASS F	BS 3892
Chemical			
SiO ₂ + Al ₂ O ₃ + Fe ₂ O ₃	%	70 (min)	N/R
SO ₄	%	5 (max)	2 (max)
Moisture	%	3 (max)	0.5 (max)
Loss on ignition	%	2 (max)	5 (max)
Na ₂ O	%	1.5 (max)	N/R
Total Chlorides	%	N/R	1.0 (max)
Physical			
Fineness (Retention on 325 mesh)	%	34 (max)	12 (max)
Strength Activity Index (Portland Cement)			
Comparative Compressive Strength at 28 days	%	70 - 75 (min)	70 - 75 (min)
Autoclave Expansion, Soundness	%	10 (min)	10 (min)

ENVIRO POZZO				
R-12	R-20	R-34	R-40	R-75
70-92				
2 (max)				
0.05-2				
0.5 (max)				
1.5 (max)				
0.1 (max)				
12 (max)	20 (max)	34 (max)	40 (max)	75 (max)
75 - 80 (min)				
0.8 (max)				

ENVIRO POZZO for Blended Cement Based on R - FACTOR

ENVIRO POZZO for Blended Cement

ENVIRO POZZO R-12 is designed to suit Blended Cement Application.

ENVIRO POZZO R-12 is suitable for direct intimate and uniform blending with Portland cement to produce Blended Portland Pozzolana Cement.

Volume of ENVIRO POZZO R-12 in Blended Cement

Proportion of fly ash as pozzolana used can vary between 51 and 53 percentage by weight of cement (as stipulated by IS 1489 Part 1) based on R-Factor Technology



Advantages

- Reduced average finished product cost and huge profit.
- Improved cement properties covering Fly ash based cement specific applications.

ENVIRO POZZO for Pozzolana Portland Cement (PPC)

Portland Gypsum to produce Pozzolana Portland Cement (PC).

Volume of ENVIRO POZZO PPC

Proportion of Fly ash as pozzolana used can vary between 51 and 53 percentage by weight of cement (as stipulated by IS 1489 Part 1) based on R-Factor Technology

Advantages

- Reduced Raw Material Cost and Improved Profit
- Improved cement properties covering fly ash based cement specific applications.

ENVIRO POZZO for Ordinary Portland Cement (OPC)

ENVIRO POZZO is a suitable raw material along with calcareous and argillaceous material to produce Ordinary Portland cement (OPC).

Purpose

Acts as a performance improver of OPC with added Silica, Alumina and Iron Oxide

Advantages

- Reduced Raw Material Cost and Improved Profit
- Improved performance of OPC with additional Silica Alumina and Iron Oxide





ENVIIRO POZZO



ENVIIRO POZZO is available in

- FOB basis at Tuticorin Port, India.
- CIF basis to any international Port (either by break bulk vessel or container)

ENVIIRO POZZO is supplied in

- 1.4 MT Jumbo Bags
- 50 Kg Bags
- Bulk tankers

ENVIIRO POZZO QUALITY

- Processing plant certified to ISO 9001:2015 by BVQI
- Product complies to ASTM C618 class F/BS 3892 part I Requirements + Pre-shipment Third party quality certification.

Our Capability -

- More than 20,000 MT / Month Quality assured classified Fly Ash production capacity
- About 20,000 MT / Month Export availability
- 10,000 MT Closed Storage facility
- Export even during monsoon with closed storage facility
- Container stuffing facility with in our plant premises
- Ability to provide loading rate upto 3000 MT / day @Tuticorin port

R&D study in ENVIIRO POZZO is enhanced in our factory to enable to find out the substitution proportion of Classified Fly Ash with Ordinary Cement Concrete using R- FACTOR to suit different purposes after analysing the concrete strength using R-Factor technology

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