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**ULTRAFINE GROUND GRANULATED  
BLAST FURNACE SLAG**



# Need for using JSW Microfine

Concrete construction is going through a metamorphic change due to high infrastructure and housing demand in India and globally. The new generation concrete needs to be smart, robust and resilient to fulfil the criteria for these structures. In this fast paced construction, structures should not only impart desired strength but also satisfy the durability and sustainability criteria. To design tailor-made concrete, we need appropriate materials to be added to the mix. The best way to design High performance concrete is by the use of modern fine SCMs and binding materials.

**JSW Microfine** is one such material which has ability to address all the fresh and hardened properties in concrete with improvements of workability, pumpability, early strength, durability and reduced Carbon footprints of the concrete mixes. As the structures go vertical due to rapid growth and expansion, it is need of the hour to implement usage of finely engineered materials in the construction sector. The usage of JSW Microfine material in construction also helps in building leaner and robust structures thus facilitating increased workable carpet area.

## Product Narrative

**JSW Microfine** is obtained from **JSW** Ground Granulated Blast Furnace Slag (GGBS) by quality controlled granulation and classification mechanism. **JSW Microfine** is a low calcium silicate based mineral additive which can be used in concrete for improving the packing density thereby enhancing the compressive and flexural strength along with durability.



In addition to inheriting the properties of **JSW GGBS**, the finer particle size of **JSW Microfine** provides added benefits in hydration reaction, reduction in water demand and improved properties of Interfacial Transition Zone (ITZ).





# Areas of Application



- Raft and Pile foundations
- Mass Concrete Structures like Dams, Rafts.
- All grades of Concrete
- Specialized applications and Infrastructure Projects
- Blended Cement and OPC manufacturing
- High Strength Concrete and High Early Strength Concrete
- Precast structures and Elements for bridges, buildings, tunnels, segmental construction
- Ultra High Performance Concrete (UHPC), Smart Dynamic Concrete (SDC), Self-Compacting Concrete (SCC) for all types of structures







- Shotcreting and Tunneling Applications
- Grouts and Microconcrete
- Dry Concrete
- Repair segment, Retrofitting, plasters and repair mortars
- Rehabilitation of Dams and Concrete structures
- Geopolymer Concrete
- Marine Structures and structures where durability parameters are necessary
- Cooling towers and Containment Buildings in Nuclear Plants.
- High Density Concretes where radiation shielding is crucial.
- LEED/ GRIHA/ GREEN compliant structures

# Advantages

Improves Rheology of the concrete mix	Reduces Heat of Hydration in concrete	Increases Particle packing and thus reducing voids and porosity
Resistance to chemical attacks and aggressive environmental conditions is increased	Increases Strength & Durability of the structure.	Improves the test results of RCPT (Rapid Chloride Penetration Test), Chloride Migration Test, WPT (Water Penetration Test)
Improves Pumpability of the concrete for high rise structures	Improves Compressive, Flexural and Tensile Strength	Enhances efficiency of work by improving the removal and rotation of formwork and precast molds
pH of concrete is maintained thus protecting the steel reinforcement	Improved fresh properties & better retention without any additional water content or chemical admixture content	Makes concrete mixes cost effective and environment friendly

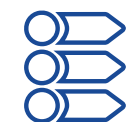
## Product Properties



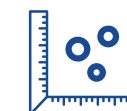
SPECIFIC GRAVITY



FINENESS



SLAG ACTIVITY INDEX



PARTICLE SIZE RANGE

Sr. No	Properties	Unit	IS 16715:2018 & amendment 2019	JSW Microfine
1	Specific Gravity			2.83
2	Particle Size Range	µm		-
	i	D50	Max. 5	3.6
	ii	D95	Max. 15	10
3	Fineness	m <sup>2</sup> /kg	Min. 1500	1612
4	Slag Activity Index			-
	i	7 Days	Min. 85%	107
	ii	28 Days	Min. 100%	115



# Usage

**JSW Microfine** conforms to IS code 16715. It is added with proper measured quantity, to concrete mix in addition to Cement & or other Supplementary Cementitious materials to enhance the particle packing and strength.

It is important to ensure proper mixing and dispersion of this fine material for desired results. As per industrial benchmarks, the dosage is between **5%-10%** by weight of total cementitious content in concrete mix, however, it may change depending on specified mix. Lab trials are recommended before final usage.



# Packaging

**JSW Microfine** is available in **20 kgs Laminated bags**. However, in cases of large quantities, supplies can be done in Jumbo Bags and Bulk form.



# Storage

**JSW Microfine** should be stored in dry place and not exposed to extreme heat and humidity. There is no such timeline but for achieving better results, the material is recommended to be used within 6 months from date of manufacturing, when stored under proper conditions.

# Health & Safety

**JSW Microfine** should be used in controlled manner.