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cement

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**CONCRETE**  
**EXPERT**

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**High Reactive Silica And Microparticles Creates Lock  
STRENGTHEN THE STRUCTURE LIKE A ROCK**

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# DALMIA DSP CONCRETE EXPERT

FOR ROCK SOLID FOUNDATION, COLUMN AND SLAB



## HERE'S WHY DALMIA DSP CEMENT IS KNOWN AS THE 'CONCRETE EXPERT'

Dalmia DSP Cement is a specialised, best-in-class product formulated particularly for concrete applications – foundation, column & slab requiring high strength. Its unique product composition of High Reactive Silica with Micro Fine Particles helps in giving you a rock strong & durable home for decades to come. Being a brand under Dalmia Cement, the product is a culmination of intensive R&D efforts, combined with over 8 decades of experience in trusted customer service and providing innovative solutions. We have expertise in developing cement for special applications and demanding projects. And the same is applied when manufacturing Dalmia DSP Cement, making it an apt choice for the modern-day, fast-paced, and high-strength construction.

# WHY CHOOSE DALMIA DSP CEMENT FOR YOUR HOME?



## SPECIALLY ENGINEERED FOR HIGH-STRENGTH CONCRETE APPLICATIONS - FOUNDATION, COLUMNS, AND SLABS

Dalmia DSP Cement is engineered by grinding superior strength clinker with processed fly ash containing high reactive silica to offer high early & long term strength gain. It has a unique blend of advantages, such as the high early strength of Ordinary Portland Cement and the sustained long-term strength gain of a blended cement, making it extremely suitable for all high-strength concrete applications.



PARAMETERS	AS PER IS:455-1989	UNIT	TYPICAL TEST RESULTS FOR DALMIA DSP CEMENT
Compressive strength - 1 day	NA	Mpa	>18
Compressive strength - 3 days	16 (min.)	Mpa	>27
Compressive strength - 7 days	22 (min.)	Mpa	>39
Compressive strength - 28 days	33 (min.)	Mpa	>53



## CRACK AND CORROSION RESISTANT - DURABLE CONSTRUCTION

Higher % of Micro Fine Particles in Dalmia DSP Cement makes the concrete denser & impervious. This helps in guarding against impending cracks and water leakages. Additionally, lower heat of hydration during setting, diminishes cracks & damages in the concrete. Also, reduced permeability of both water & oxygen provides better corrosion resistance to embedded reinforcement in RCC, making it durable for decades to come.



PARAMETERS	AS PER IS:455-1989	UNIT	TYPICAL TEST RESULTS FOR DALMIA DSP CEMENT
Chloride content	0.10 (max.)	% by mass	0.011



## ASSURED ON-SITE EXPERT SUPERVISION

Get assured on-site expert supervision for every stage of construction by our team of civil engineers. This is a value-added service, at no additional cost, aimed at providing technical assistance to monitor right construction practices for a strong and durable structure.



## CERTIFIED WORLD'S GREENEST CEMENT

Being a cement company with the lowest carbon footprint in the world has led us to be recognised as the 'World's Greenest Cement'. That's why, choosing Dalmia DSP Cement can help you reduce your carbon footprint and contribute towards a greener, healthier world.



## SUPERIOR PACKAGING

Our tamper - proof, and water resistant packaging ensures that the cement stays safe from any spillage or adulterations.

# CONCRETE EXPERT

# CONSTRUCTION TIPS FOR USING DALMIA DSP CEMENT:

The strength and durability of the concrete depends on the quality of its ingredients – like cement, sand, aggregate, and water. Usually, the ingredients are proportioned as per the volume of the cement bag (that is 50 kg by weight or 35 litres by volume). **In order to efficiently proportion the volume of the sand and aggregates – only measuring-boxes with the dimensions of 35 cm x 25 cm x 40 cm should be used.**



The shuttering should be strong enough to withstand the weight of the concrete, reinforcement of the steel, weight of the people involved in placing and compacting the concrete, impact loads due to the concrete placement, and vibrations from the vibrator.

For footings, columns, beams, slabs, etc. – the minimum grade of concrete exposed to mild environment, as per IS 456-2000, is M20. And based on this the volumetric mix-proportion of sand aggregate is 1:1.5:3.



The concrete strength and durability mainly rely on the **water-cement ratio** used in the concrete mix. It is recommended that the **water mixed in should be properly measured** while preparing the mix, and the maximum amount of water that can be added **per bag (50 kg) of cement** is restricted to 27.5 litres.

When preparing the concrete-mix, it should be kept in mind that it is to be used within 35-45 minutes. In case the concrete is not deposited and compacted within the stipulated time, the initial setting of the cement takes place, resulting in reduced workability of the concrete.



Good concrete is homogenous and is prepared by thorough mixing of all the ingredients. To ensure homogeneity in the concrete mix, it should be prepared in mechanical mixers and mixed for at least 2.5 minutes.

The concrete mix should be placed in the forms gently, ensuring that it is not dropped from a height of more than 1.5 m.



The freshly-prepared concrete may contain entrapped air and it should be removed by compaction through the process of vibration (with the help of needle or plate vibrators). Proper compaction of concrete is extremely important, as for every 1% void in the concrete, its strength reduces by 5%.

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