



PRODUCT DATA SHEET

DP 60 – Cement Replacement

Description - DP 60 is a high efficiency pozzolanic material, obtained by selection and processing of power station fly ashes resulting from the combustion of pulverised bituminous coal. DP 60 is subjected to strict quality control.

General Information

Presentation	Finely divided dry powder
Colour	Light grey
Bulk Weight	Aprox. 1.0 metric ton per cubic meter
Specific density	Aprox. 2.3 metric ton per cubic meter
Particle size	Maximum 18 % ROS on 45 micron sieve
Particle shape	Spherical
Package	30 kg paper bags, 1 metric ton big-bags and bulk tankers

Recommended uses

Concrete	General purpose plain and reinforced structural concrete with 28 day strength levels up to 50 MPa. Special purpose concrete, such as mass concrete, pre-cast concrete, pumpable concrete, self-compacting and self-levelling concrete.
Cement	Blended cements (Portland Pozzolana Cement), such as sulphate resistant/marine resistant cement.
Mortar	General purpose mortar for plastering and brickwork. Specialised mortars for floor / wall tiling work. Flowable mortars for use as structural fill in earthworks.
Grout	General purpose grouts for use in earthworks for the treatment of rock cracks. Grouts for earthworks to be used in anchors.

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Recommended dosages

The dosages of DP 60 and the other mix constituents should be determined by appropriate mix design testing. They will depend on required mix properties, grade of cement, admixtures used, etc. The following figures are indicative.

Typical replacement levels with DP 60

	Percentage of total binder	Dosage
Low grade concrete (up to 35 Mpa)	23% -35%	80 – 150 kg/m ³
Medium grade concrete (35-50 Mpa)	25% - 35%	100–175 kg/m ³
Pre-cast concrete	20% - 35%	70 –140 kg/m ³
Mass concrete	50%	100 – 150 kg/m ³
Pumpable concrete	30% - 35%	100–175 kg/m ³
Self compacting/levelling concrete	40%	150 – 200 kg/m ³

Typical concrete performance with 25% DP 60

Water Demand	Reduced by 8%
Workability	Improved
Setting Time	Increased 30 - 60 min
Long Term Strength	Increased 15% -20%
28 day Strength	Similar
Early Strength (7 days)	Reduces by 10-15%
Required Curing	8 to 10 Days
Permeability	Reduced 2 - 5 times
Sulphate Attack	Substantially Reduced
Chlorine Penetration	Substantially Reduced
Heat of Hydration	Substantially Reduced
Plastic Shrinkage	Reduced