



PRODUCT DATA SHEET

DP 100

For high performance concrete

Description: DP 100 is a very high efficiency pozzolanic material for use as a component of cement with Portland clinker (i.e. as a partial replacement of Portland cement) to yield high performance concrete. It is produced by careful selection, processing and testing of fly ash resulting from the combustion of coal used at electricity generating power stations. It is a top of the range product in terms of all the International Standard specifications for fly ash and is subjected to stringent quality control.

General Information:

Presentation:	Finely divided dry powder
Colour:	Greyish white
Bulk Weight:	0.65 tonne/m ³
Specific density:	2.3 metric ton per cubic meter
Loss on Ignition	< 2.5%
Particle size:-	Less than 5% retained on 25 micron sieve
Particle shape:	Spherical
Package:	30 kg bags
Water demand:	8 to 12% reduction

Recommended uses:

Concrete: General purpose, plain and reinforced structural concrete, with 28 day strength exceeding 70MPa yielding high early strengths as well. Special purpose, such as pre-stressed, pre-cast and high performance concrete for its rheological, engineering permeation and durability properties.

Cement: High grade, sulphate and chloride resistant, as well as low and very low heat, PC/fly ash blended cements.

Grout: Specialised micro-grouts for crack sealing in repair works

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Recommended Proportions:

The proportions of DP 100 and the other mix constituents should be determined by an appropriate mix design method and testing. The proportion of DP 100 used would depend on the required concrete properties, type of PC and admixture used. The following figures are indicative.

Typical Dosage of DP 100

Product	% of DP 100 from total binder content
High Strength Concrete > 70 MPa	8-10
Medium High Strength Concrete (40-70 Mpa)	5-10
Pre-Stressed Pre-cast Concrete	8-10
High Performance Concrete	5-10
High Grade Portland Pozzolana Cement	5-10
Mortars for Concrete Repair	20
Micro-Grouts for Crack Sealing	10-25

Typical concrete performance with 10% DP 100 w.r.t. PC Concrete

Property	Better	Similar	Worse
Water Demand	Reduced, 8 -10%	-	
Workability	Improved	-	
Stability	Improved Greatly		
Plastic Shrinkage	Reduced		
Plastic settlement	Reduced		
Setting Time	Increased 15 - 45 min	-	
Heat of Hydration	Reduced Greatly		
Long Term Strength	Increased 25 - 30%	-	
28 day Strength	Increased 15- 20%	-	
Early Strength (7 days)		Similar	
Required Curing		Similar	
Permeation	Reduced 2 - 5 times		
Sulphate Attack	Reduced Substantially		
Chlorine Penetration	Reduced Substantially		
ASR Risk	Minimised		

