

PLAZROK CONCRETE CUBE TEST RESULTS REPORT

1. Objective

The objective of this test was to evaluate the compressive strength performance of concrete produced using Plazrok aggregates(2%) for a C25 mix design. The aim was to verify that the concrete meets the required characteristic strength of 25 MPa at 28 days and to assess early-age strength development.

2. Materials and Mix Design

The concrete mix was proportioned according to the design mix for C25 structural concrete, with a target mean strength slightly above 25 MPa to account for production variation.

MATERIAL A	MATERIAL B
19mm Quarry stones/kg	19mm Quarry stones(2% Plazrok aggregates)
Quarry Dust/kg	Quarry Dust(2% Plazrok aggregates)
Riversand/kg	Riversand(2% Plazrok aggregates)
Sino Cement/kg per m3	Sino Cement/kg per m3
Water/litres	Water/litres
Chryso Optima 206 /litres	Chryso Optima 206 /litres

C25 MIX DESIGN VARIABLES	
RAW MATERIALS/Quantity	1m3
19mm Quarry stones/kg	950
Quarry Dust/kg	500
Riversand/kg	550
Cement/kg per m3	300
Water/litres	170
Chryso Optima 206 /litres	4

Please note the mix design was conducted using material quantities proportioned to produce 0.02m3 of concrete

3. Cube sample results

C25 PLAZROK COMPARISON															
DATE OF MOULD	MATERIAL TYPE	WEIGHT	CRUSHING DATE	3 DAYS		SAMPLE ID	WEIGHT	CRUSHING DATE	7 DAYS		SAMPLE ID	WEIGHT	CRUSHING DATE	28 DAYS	
				(KN)	Mpa				(KN)	Mpa				(KN)	Mpa
10/10/2025	AGGREGATE MIX(PLAZROK 2%)	8219	13/10/2025	352.7	15.68	C1	8345	17/10/2025	449.5	19.98	C1	8234	7/11/2025	591.6	26.29
10/10/2025	AGGREGATE MIX	8264	13/10/2025	356.2	15.83	C2	8357	17/10/2025	558.8	24.84	C2	8277	7/11/2025	690	30.67

4. Observations

The tested C25 concrete cubes ACHIEVED required strength target for 3, 7 and 28 days.

Both samples passed with those using Plazrok aggregates slightly lower than without

5. Conclusion

Further testing to be done for C30 molds but it shows that with further adjustments on design ,plazrok aggregates can be used.

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