

# STRUCTURE WITH STRENGTH



**IC PRECIGROUT**

High Strength Cementitious Grout

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“IC PRECIGROUT” is General Purpose High Strength Cement based grouting material designed to transfer load effectively and safely, ensuring grouting precision and durability of structure. “IC PRECIGROUT” inhibits corrosion of embedded steel and imparts high initial and ultimate flexural and compressive strength.

“IC PRECIGROUT” has been carefully developed to optimum performance, even in the toughest applications along with unparalleled ease of application. It provides long life expectancy and maintains the rigid equipment to foundation connections which is necessary to meet demanding installation requirements.

“IC PRECIGROUT” complies and exceeds the guidelines provided in ASTM C 1107/ C1107M and EN 1504-3 Class R4

“IC PRECIGROUT” can be used for the following:

- All kinds of Grouting work
- Setting Stanchion /turbine base plates
- Grouting of precision machinery
- Setting high strength anchor bolts
- Grouting of precast elements
- Steel column pads
- Filling of voids and jacketing applications
- Plugging of holes in concrete, etc.



It can also be used for general grouting purposes in concrete such as patch repairs, crack filling, honey comb repairs, road repairs, quick fixing of window and door hold fasts, ceramic insulator jointing etc.

## ► Advantages:

- Very high compressive and flexural strength at very short time.
- High pot life ensuring negligible wastage.
- Non-shrink grout with controlled positive expansion ensures proper load transfer and durability of structure.
- High fluid consistency and bleeding resistance.
- Quickly and easily placed by pouring or pumping.
- Resists chemical attack, oils, petroleum products, solvents, and mild caustic alkalis.
- No added chloride or gypsum.
- No bleeding and segregation at high fluid consistency.
- Excellent for dynamic and static loading conditions.
- Free of chlorides and additives, that may lead to corrosion.
- High drill resistance property.
- Self-compacting.
- Product variants available in both Flow-able and Normal Trowel-able consistency.

## ► Method of Application:

### SURFACE PREPARATION

- The substrate should be clean and free from loose particle, dust, grease and foreign material that may affect adhesion.
- Hammer out all loose material on the surface of application.
- Surface must be rough and profiled for developing bond with “IC PRECIGROUT”. Sanding or high pressure washing can be done to clean the area.
- Grouting area should be in SSD (saturated with water; but surface dry) condition while pouring.

### MIXING

**WATER TO POWDER RATIO: WATER TO “IC PRECIGROUT”  
NORMAL 16% AND FLOWABLE 17%**

- Small quantities of grout may be hand-mixed in a concrete mixing pan using triangular trowel or any suitable tool until lump-free homogeneous mass is obtained. For large quantities and continuous pours, mix using a mortar mixer (300 to 600 rpm) or appropriate grout pump.



- It is advisable to use a mechanical mixer for uniform and thorough mixing which saves time, labor and ensures maximum workability.
- More time may be required to mix manually, by using the same percentage of water to prepare the mix.
- “IC PRECIGROUT” powder is initially mixed with 80-90% of the recommended water ratio for 4-5 minutes in mechanical mixer and thereafter remaining 10% of water is to be added. Mix thoroughly for 2-3 minutes to obtain homogeneous mass.
- No extra water should be added to the mix.
- “IC PRECIGROUT” mixture should be applied within 1 hour of mixing with water.
- Let the grout stand for 5 minutes and re-mix for 2~3 minutes to ensure optimum dispersion and lump free paste.

### METHOD OF APPLICATION

- Manual/mechanized method can be used for application.
- Ensure removal of voids within the material applied.
- Clean the excess material immediately, if any and can reuse within one hour.
- In case of addition of Aggregates, it is recommended to mix Aggregate at the ratio of 1:1 to “IC PRECIGROUT”.

### PLACEMENT

- The formwork if required, should be of waterproof material and should be placed properly to counter the hydrostatic forces of grout.
- “IC PRECIGROUT” is easily placed by pouring or pumping and compaction should be undertaken.
- Place grout on one side, flowing to opposite and adjacent sides, to avoid entrapment of air. When necessary, provide vent holes.
- The prepared grout material can be reused within the pot life. Excess material should be cleaned immediately after the application.
- Ensure that “IC PRECIGROUT” remain moist at least for 7 days for attaining desired strength.

### METHOD OF APPLICATION WITH AGGREGATES

The water requirement in case of “IC PRECIGROUT” mixed with aggregate will be approximately 8.5-11% depending the mixing ratio and the aggregate quality.

It is very important to saturate the aggregates completely before mixing it to the Grout. This will ensure that the aggregates will not absorb water from the mix which may reduce the workability. This will also ensure the elimination of higher dust content if any around the aggregates which impairs the physical properties of Grout.

### PRECAUTIONS

- Mixing of water with grout must be done homogeneously as per recommended water-powder ratio only.
- Do not add extra water to maintain flow or workability after the pot life is over.
- Clean all the tools and tackles and mixer machine after mixing till the grout is not hardened.
- Ideal temperature to grout is 10~35°C. Adjust mixing water temperature while grouting “IC PRECIGROUT” in extreme cold and hot conditions.
- Open areas should be protected from rain wind and other aggressive climatic conditions for first 24 hours of grouting.
- In case of “IC PRECIGROUT” admixed with Aggregates 1:1, not saturated with water, it is very important to do the water correction depending upon the water absorption of the aggregates (it is very important to consider the dust around the aggregates which will also take lot of water while mixing) hence in this it is quite possible that water requirement may rise by 3% to 5% as mentioned for plain grout depending on the water absorption and dust in aggregate.
- Coarse aggregates if added, must be clean, hard, angular and roughly in cubical shape. Flaky and absorbent (more than 5% water absorption in 24 hour immersion) aggregates are not recommended for use as they deteriorate the quality of the finished application.

Quality of aggregate plays a major role in strength, durability and workability if mixed in the grout. Judicious selection of aggregate is advisable to obtain desired parameters.

### CLEANING & SAFETY

Remove excess material on tools and site using clean water and mechanical scrubbing before it hardens and difficult to dislodge.

“IC PRECIGROUT” is non- toxic, however, as with any cementitious material, avoid prolonged contact with skin and dust inhalation.

### PACKAGING

“IC PRECIGROUT” is available in 40 Kg packaging.

## STORAGE & SHELF LIFE

Store in a cool and dry place. Ensure that the bags does not burst or tear while handling. There should be a gap of 0.5 m from the walls to the stacks.

“IC PRECIGROUT” will remain usable for a period of six months (6 Months) from date of manufacture when stored as per standard recommended conditions.

## ► Technical Data

Parameter	Unit	Typical Value
Bulk density	Kg/L	1.35~1.45
Fresh wet density	Kg/ L	2.2~2.3
Water demand	%	15.5~17
Pot life	Minutes	60
Flexural Strength in 28 days	N/mm <sup>2</sup>	13.5
Splitting Tensile Strength in 28 days	N/mm <sup>2</sup>	8.5
Linear coefficient of Thermal Expansion	mm/mm/°C	8-9 X 10-6
Modulus of Elasticity in 28 days	GPa	53~54
Compressive Strength	in 01 Day	35~45
	in 03 Days	55~65
	in 07 Days	75~85
	in 28 Days	Up to 100
Flexural Strength	in 01 Day	3~4
	in 07 Days	7~8
	in 14 Days	9~10
	in 28 Days	11~12
Pull off bond Strength	in 07 Days	18~19
	in 28 Days	21~22
Tensile Strength in 28 days	N/mm <sup>2</sup>	3.9

Specifications are subject to change in our pursuit of product improvement. Kindly contact the technical personnel for any clarification.

“IC PRECIGROUT” - Compressive strength mixed with 10mm down aggregate:

IC PRECIGROUT: Aggregate (%)	50:50	70:30	
Water Demand (%)	8.5~9.5	9~10	
Compressive Strength (N/mm <sup>2</sup> )			
	01 Day	34~42	30~38
	03 Days	40~48	36~46
	07 Days	46~58	45~55
28 Days	>75	>70	



BUILDING MATERIAL DIVISION

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Disclaimer: Please read carefully the guidelines given in this leaflet to achieve optimum results. The procedure mentioned here are for ideal conditions. Technical advice should be sought for different conditions. Specific instructions for various site conditions can be provided by us on demand.