


# UltraTech POWERGROUT

## NS2

Series: PGNS20012 | Month: February 2021  
Supersedes all earlier TDS

High Performance Precision Grout



UltraTech POWERGROUT NS2 is a cement-based, high performance, high early strength precision grout. It is developed by using special additives & selected fillers. It is recommended for grouting with design strength up to 80 MPa.

## Specification

Technical Parameters complies with the following Standards: ASTM C 1107, ASTM C 109, ASTM 190, ASTM C 940, ASTM C 469, ASTM C 348, IS 4031.

## Areas of Application

UltraTech POWERGROUT NS2 is ideal for grouting of foundation base plates, heavy machinery foundations, micropiles, pile caps, shear wall bond beams, foundation of turbines, compressor, boilers, feed pumps, etc.; anchoring of wide range of fixings, bolts, heavy structural post, etc.; manufacturing of high strength pavers and block; repair of concrete paths, RCC surfaces, etc. and precision grouting where it is essential to withstand static & dynamic loads.

## Features and Benefits

- Excellent compressive strength
- Excellent bond strength
- Non-shrink, non-expanding
- Enhanced flow properties and pot life
- Self-compacting in nature
- No bleeding and better mix consistency
- Economical with graded coarse aggregates for higher volume applications
- Subsequent usage time is 24 hrs depending on ambient conditions

## Method of Application



### Surface Preparation

- Prepare the surface before the application of UltraTech POWERGROUT NS2 by removing oil, bond inhibiting agents, dirt, dust and laitance with suitable methods like by using wire brush, water jetting, mopping, etc.
- Properly check reinforcement and other elements to be grouted as per the structural requirements before placing UltraTech POWERGROUT NS2.
- The shuttering has to be leak-proof and without any gaps or loose material to ensure nil leakage while using UltraTech POWERGROUT NS2.
- It is recommended to apply UltraTech SEAL & DRY 5 PLUS over the old and new reinforcement bars, metal areas and over old-new concrete joints before grouting.



### Mixing

- UltraTech POWERGROUT NS2 requires 14-15% potable water by weight of material.
- Add UltraTech POWERGROUT NS2 to the measured quantity of water while continuously stirring using a mechanical mixing device. Mix until a thick lump free consistency is achieved.
- Allow the mix to stand for 2 minutes to mature and then mix it again before use.
- Do not add more water to alter the mix consistency or to extend the pot life. Further water addition will hamper the strength and adhesion properties of UltraTech POWERGROUT NS2.
- If required, UltraTech POWERGROUT NS2 can be mixed with up to 12 mm down well graded aggregates in 2:1 ratio by weight (2 part UltraTech POWERGROUT NS2 and 1 part 12 mm down well graded aggregates).
- For specific high volume application, addition up to 20 mm down well graded aggregates can also be done in 2:1 ratio by weight (2 part UltraTech POWERGROUT NS2 and 1 part well graded aggregates).



### Application

- Ensure that there is no standing water before the grout is poured and the surface is in SSD condition.
- Pour/pump the mixed UltraTech POWERGROUT NS2 to the prepared substrate using appropriate pouring/pumping technique within 60 minutes of mixing.
- UltraTech POWERGROUT NS2 should not be vibrated with any mechanical vibrator as it is self-compacting. Any external vibration will segregate the mix and might impact the product performance from the designed properties.
- Curing is required only for exposed areas.

## Technical data as per relevant IS and ASTM Standards

Fresh wet density	2250-2350 kg/m <sup>3</sup>
Max size of aggregates	Well graded up to 20 mm
Percentage of coarse aggregates which can be blended	2 part of UltraTech POWERGROUT NS2 and 1 part of well graded up to 12 mm coarse aggregates by weight
Water powder ratio (IS 516 - 1959)	14-15% without coarse aggregates; 9-10% with coarse aggregates
Type of mixing	Mechanical mixing
Yield per 40 kg bag @ 15% w/p ratio	19-20 L
Rapid chloride penetration value (ASTM 1202 - 03)	Moderate
Flexural strength @ 28 days (ASTM C 348)	10-11 MPa
Tensile strength @ 28 days (ASTM 190)	5.5 MPa
Split tensile strength @ 28 days (IS 5816-1999)	4 MPa
Moh's hardness no. (IS 13630 Part 13)	6-7
Modulus of elasticity (ASTM C 469)	35-40 GPa
Linear co-efficient of Thermal expansion mm/mm/Deg C (ASTM C 531)	1 to 2x10 <sup>-6</sup>
Expansion % (ASTM C 940)	Nil
Chloride content	Nil
Bleeding % (ASTM C 940)	Nil
Pot life	60 minutes
Subsequent usage time	24 hours
Abrasion resistance mm (IS 1237)	0.40
Dynamic load resistance	No distress observed for stress fluctuation of 50 kg/sq.cm to 250 kg/sq.cm @8.33Hz for 2 million cycles

## Table for Compressive Strength MPa @ 15% w/p

Test Method	ASTM Method	IS Method
Cube Size	50 mm	70.6 mm
1 day	30-35	25-30
3 days	40-45	35-40
7 days	60-65	55-60
28 days	75-80	70-75

## Note

- Allow a minimum of 24 hours for the subsequent usage. It is recommended to use UltraTech POWERGROUT NS2 when temperature is between 20°C to 35°C. For temperature below 20°C, cold weather concreting guidelines and above 35°C, hot weather concreting guidelines to be followed.
- The technical data provided in this technical data sheet is as per lab testing conditions and may vary as per the actual method of application at sites.
- Consult UltraTech Building Products Division Technical Services Cell for any further technical assistance.

## Shelf Life

- UltraTech POWERGROUT NS2 has a shelf life of 6 months from the date of manufacture. Store in a cool and dry place.

## Packaging

40 kg

## Safety Directions

- UltraTech POWERGROUT NS2 is non-toxic. Use of gloves and goggles recommended. Any splashes to the skin or eyes should be washed off with clean water immediately.
- In case of prolonged irritation, medical advice should be sought. UltraTech POWERGROUT NS2 is non-flammable.

## Other Product Categories

- Waterproofing - SEAL & DRY and WEATHER PRO
- Tile Adhesive & Tile Grout - TILEFIXO and TILEFIXO GROUT
- Plaster & Jointing Mortar - SUPER STUCCO, READIPLAST, BASEKRETE and FIXOBLOCK
- Repair & Rehabilitation - MICROKRETE, MYKROFILL and BASEKRETE
- Flooring - FLOORKRETE
- Autoclaved Aerated Lightweight Concrete Blocks - XTRALITE

## Variants

- UltraTech POWERGROUT NS2 FLOWABLE
- UltraTech POWERGROUT NS2 NORMAL

### DISCLAIMER

Information provided in this data sheet is a guideline for usage. Users are advised to undertake a trial for product suitability prior to its full scale usage. There is no implied guarantee/warranty for the results and the company is not liable for any consequential damages.



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