ADT NS GROUT

NON-SHRINK CEMENTITIOUS PRECISION GROUT | HIGH STRENGTH | FREE FLOW

NON-SHRINK · CHLORIDE FREE · NON-METALLIC · PRE-BAGGED

TECHNICAL DATA SHEET Version 1.0 | September 2026

PRODUCT DESCRIPTION

ADT NS Grout is a pre-bagged, non-shrink, free-flowing cementitious precision grout composed of Portland cement, graded fillers and chemical additives. Its controlled expansion system compensates for plastic-stage shrinkage and settlement, ensuring complete surface contact and gap-free load transfer between base plates and foundations. Supplied as a ready-to-use dry powder, it requires only the addition of clean water at site, eliminating batching errors. ADT NS Grout is chloride-free and non-metallic, making it safe for use in contact with reinforcement and anchor systems.

Consistency is adjustable — flowable, pourable or dry pack — from the same bag by varying the water addition within the specified range.

KEY FEATURES & BENEFITS

Non-Shrink System
Controlled expansion compensates plastic shrinkage — full bearing contact

High Early Strength
≥ 27 N/mm² in 24 hours — fast machine alignment & load transfer

Free Flowing
Flows into confined spaces and under base plates without vibration

Adjustable Consistency
Flowable / pourable / dry pack from one bag by water dosage

Chloride-Free & Non-Metallic
No corrosion risk to rebars, anchor bolts or PT systems; no staining

Pre-Bagged Quality
Factory-controlled blend — only clean water added at site

High Ultimate Strength
28-day ≥ 70 N/mm² — M70 class, static & dynamic loads

Economical & Fast
No formwork complexity, minimal wastage, quick turnaround

WHY NON-SHRINK MATTERS

Ordinary cement mortar shrinks as it sets. Under a machine base plate, that shrinkage becomes a void; a void becomes vibration; vibration becomes misalignment, loosened anchor bolts and downtime. ADT NS Grout expands +1% to +4% in the plastic state and locks itself against the plate — 100% bearing contact, zero gap, full load transfer from day one.

TECHNICAL DATA

Appearance Grey free-flowing powder	**Base** Portland cement, graded fine fillers & additives — 100% passing 2.36 mm (fine-graded for flow)
Water Addition (Flowable) 4.2 – 4.5 litres per 30 kg bag (w/p 0.14 – 0.15)	**Water Addition (Pourable / Dry Pack)** 3.9 – 4.2 litres per 30 kg bag
Yield (Flowable) ≈ 15 litres per 30 kg bag	**Compressive Strength — 1 Day** ≥ 27 N/mm² (ASTM C109 / IS 4031 Pt 6)
Compressive Strength — 7 Days ≥ 55 N/mm² (ASTM C109 / IS 4031 Pt 6)	**Compressive Strength — 28 Days** ≥ 70 N/mm² (ASTM C109 / IS 4031 Pt 6)
Flexural Strength — 28 Days ≥ 10 N/mm² (ASTM C348 / IS 4031 Pt 8)	**Expansion Characteristics** +1% to +4% plastic-state expansion (ASTM C940); no shrinkage after set
Flow Characteristics Flow ≥ 110% (ASTM C1437); flow cone 25–30 s (ASTM C939); ≥ 1.0 m travel in 25 mm gap, single-point pour	**Setting Time (Initial / Final)** Initial 4 – 6 h / Final 6 – 8 h @ 30°C (ASTM C191 / IS 4031 Pt 5)
Chloride Content Nil — chloride free, non-metallic	**Reference Standard** ASTM C1107 (Grade A — plastic-state expansion)
Application Thickness 10 – 100 mm neat; 100 – 250 mm extended with clean 10 mm aggregate (max 1 : 2 aggregate : grout by weight)	**Pot Life @ 30°C** ≥ 30 minutes
Fresh Wet Density 2,200 ± 100 kg/m³ (ASTM C138)	**Powder Consumption** ≈ 2.0 kg powder per litre of filled void (≈ 2,000 kg/m³)
Anchor Pull-Out Performance Tested to IS 2770 (Part 1) — report available	**Shelf Life** 6 months (unopened bag, dry conditions)
Packing 30 kg moisture-resistant bag	**Storage** Dry, covered area on pallets — away from moisture
Mixing Mechanical mixing only — slow-speed drill with paddle / grout mixer	

COVERAGE & BAG CALCULATOR

Formula: Grout required (litres) = Length (m) × Width (m) × Gap (mm). Bags = Litres ÷ 15, plus 10% wastage.

Gap Thickness	Coverage per 30 kg Bag	Bags per 10 sqm	Bags per m³ of void
25 mm	0.60 sqm	17	67
50 mm	0.30 sqm	34	67
75 mm	0.20 sqm	50	67
100 mm	0.15 sqm	67	67

Worked example: base plate 600 × 600 mm with 40 mm gap → 0.6 × 0.6 × 40 = 14.4 litres → 1 bag of 30 kg. Values based on yield ≈ 15 litres per bag at flowable consistency; add 10% for wastage and formwork losses.

APPLICATION METHOD — STEP BY STEP

Phase 1 — Preparation

1 SURFACE PREPARATION

Remove all laitance, oil, grease and loose material from the foundation. Chip the surface to expose sound aggregate. Clean bolt pockets by air blowing.

2 PRE-SOAKING

Saturate the prepared concrete surface with clean water for 6–24 hours before grouting. Remove all free-standing water — surface must be SSD.

3 FORMWORK

Fix leak-proof formwork around the base plate with a suitable head box on the pouring side. Keep 100–150 mm hydraulic head for continuous flow.

4 MIXING

Add measured clean water to the mixing vessel first, then add the full 30 kg bag gradually while mixing with a slow-speed mechanical mixer for 3–5 minutes to a uniform, lump-free consistency. Never mix by hand. Never exceed the specified water dosage.

Phase 2 — Grouting

5 POURING

Pour continuously from ONE side only to avoid air entrapment, maintaining the hydraulic head until grout appears on the opposite side.

6 PLACEMENT WINDOW

Place the mixed grout within 30 minutes of mixing @ 30°C. Do not re-temper with additional water after initial set begins.

7 FINISHING

Trim exposed grout shoulders at 45° after initial stiffening. Do not vibrate. For exposed edges, cover promptly to prevent rapid moisture loss.

8 CURING

Cure exposed surfaces immediately — wet hessian + polythene or apply ADT WBCC curing compound — for minimum 3 days.

Note: For gaps 100–250 mm, extend the grout with clean, well-graded 10 mm aggregate (max 1 part aggregate : 2 parts grout by weight). Above 40°C ambient, use chilled mixing water and grout during cooler hours.

6 SITE MISTAKES THAT RUIN A GROUTING JOB

Adding extra water for flow
Every extra litre cuts strength and causes bleeding — ADT NS Grout flows at its specified dosage; if it needs more water, stop and call us

Hand mixing
Lumps and trapped air destroy flow and strength — slow-speed mechanical mixing for 3–5 minutes is non-negotiable

Pouring from both sides
Two fronts meet under the plate and trap air exactly where the load sits — always pour from one side only

Skipping the pre-soak
Dry concrete sucks water out of the grout and weakens the interface — saturate 6–24 hours, remove standing water

Losing the grout head
A broken pour = a cold joint under the plate — keep 100–150 mm head and mix the next batch before the first runs out

No curing
Exposed shoulders dry fast and crack — wet hessian or ADT WBCC immediately after finishing, minimum 3 days

AREAS OF APPLICATION

Machine Foundations	Base Plate Grouting	Anchor & HD Bolts	Crane Rails
Turbines, compressors, pumps, DG sets	Columns, beams & structural steel	Bolt pockets & fixings	Rail & bearing pedestal grouting

Precast Joints	Bridge Bearings	Repairs & Jacketing	Gap Filling
Element connections & sleeves	Bearing pedestal grouting	With ADT Flex SBR systems	Steel-to-concrete interfaces

SYSTEM PRODUCTS

ADT Flex SBR NPU — bond coat and polymer-modified repair systems · ADT Seal MPU 150 — flexible PU sealant for joints and penetrations · ADT WBCC — curing compound for exposed grout surfaces · ADT Micro Concrete — for larger-section structural repairs and jacketing

FOR CONSULTANTS — READY SPECIFICATION CLAUSE

Copy this clause directly into your BOQ / tender specification:

"Grouting of base plates / anchor pockets shall be carried out using ADT NS Grout or approved equivalent — a pre-bagged, non-shrink, chloride-free, non-metallic cementitious precision grout conforming to ASTM C1107 (Grade A), with minimum compressive strength of 27 N/mm² at 1 day and 70 N/mm² at 28 days (ASTM C109 / IS 4031 Pt 6), flow ≥ 110% (ASTM C1437), plastic-state expansion +1% to +4% (ASTM C940), mixed mechanically and placed by continuous single-side pour maintaining a 100–150 mm head, cured for a minimum of 3 days."

PRECAUTIONS

Do not exceed the specified water dosage — excess water causes bleeding, segregation and strength loss. Mechanical mixing only; hand mixing is not permitted. Do not re-temper stiffened grout with water. Do not vibrate the grout. Respect the 10–100 mm neat thickness limit; use aggregate extension for deeper pours as specified. Protect fresh grout from rapid drying, direct sun and frost during the initial cure. Use gloves and dust mask while handling — cementitious powder is alkaline; in case of eye contact, rinse thoroughly with clean water and seek medical advice if irritation persists.

IMPORTANT NOTICE

The information in this data sheet is based on our current knowledge and laboratory-controlled testing at the time of publication. All values are typical and subject to change without notice. Users should verify suitability for their specific application and conduct a trial before large-scale use. For system design support, site inspection or applicator services, contact ADT technical support on the toll-free number below.

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