# ADT FLOORHARD NM

**NON-METALLIC DRY-SHAKE FLOOR HARDENER | QUARTZ AGGREGATE | BS 8204-2 CLASS AR1 | 30 kg**

**PREMIUM QUARTZ · NON-RUSTING · WET & EXTERIOR SAFE · 4 COLOURS · 3 – 7 kg/m² · ADD NOTHING**

**TECHNICAL DATA SHEET** Version 0.1 (Draft — spec-driven targets, pending first-batch COA + NABL report) | September 2026

## PRODUCT DESCRIPTION

ADT Floorhard NM is a ready-to-use, non-metallic dry-shake floor hardener: a factory blend of OPC 53 cement, graded high-purity quartz aggregate and dispersing and water-reducing agents. Broadcast onto freshly floated concrete in two shakes and power-trowelled in, it forms a monolithic 2.5 – 3 mm wearing layer that is dense, non-dusting and up to three times more abrasion-resistant than the concrete beneath it. Because the aggregate is quartz, not iron, the floor never rust-stains — it is the hardener for wet process areas, exterior yards, car parks and any floor that will be seen: available in natural grey and three integral colours.

*A floor wears from the top 3 mm down. Floorhard NM puts the hardest 3 mm on top — quartz at Mohs 7, bonded into the slab while it is still wet, so there is no layer to peel, no coating to re-do and nothing to rust.*

## KEY FEATURES & BENEFITS

**Premium Quartz — Core USP**
≥ 95% $SiO_2$ quartz, Mohs ≥ 7, graded 0.2 – 2 mm — abrasion loss ≤ 0.8 mm (IS 1237), BS 8204-2 Class AR1 target

**Never Rusts**
No ferrous aggregate — safe for wet process floors, washdown areas, exterior yards, ramps and car parks

**Monolithic, Not a Coating**
Hydrates with the slab's own bleed water — becomes part of the concrete; nothing to delaminate or peel

**Non-Dusting, Easy Clean**
Dense trowelled surface resists dusting, oil and grease penetration — lower housekeeping cost for life

**4 Integral Colours**
Natural grey, red oxide, green and terracotta — colour through the full 3 mm, not a paint that wears off

**Light Reflective (grey)**
Trowelled quartz surface reflects more light than plain concrete — brighter warehouses, lower lighting load

**Three Duty Grades in One Bag**
3 – 4 kg/m² light · 4 – 5 medium · 5 – 7 heavy — same product, dosage sets the duty

**Add Nothing**
Pre-packed, no site batching, no water — broadcast, float, trowel, cure

### THE FLOOR IS ONLY AS GOOD AS ITS TOP 3 MM

An M25 slab is strong enough to carry the forklift — it is not hard enough to stop the wheel from grinding it into dust. Every industrial floor that "went bad" failed in the top few millimetres: dusting, pitting, ruts along the forklift line. A dry-shake hardener replaces that weak, bleed-water-rich skin with a dense quartz-cement layer trowelled in while the slab is still plastic. Floorhard NM is specified at the top of the non-metallic class — abrasion loss under 0.8 mm — so the floor you hand over on day one is the floor the client still has in year fifteen.

## WHERE IT SITS IN THE ADT RANGE

| | Plain trowelled concrete | ADT Floorhard NM | ADT Floorhard MT |
|---|---|---|---|
| **Wearing layer** | Cement laitance — the weakest part of the slab | Quartz dry-shake, 2.5 – 3 mm monolithic | Iron-aggregate dry-shake, 2.5 – 3 mm monolithic |
| **Abrasion loss (IS 1237)** | ≈ 2.5 – 3.5 mm | ≤ 0.8 mm — target | ≤ 0.5 mm — target |
| **Traffic** | Foot, light trolley | Forklift (pneumatic / cushion tyre), trucks, trolleys | Steel-wheel, point load, drop impact |
| **Wet / exterior** | Yes | Yes — non-rusting | No — dry interior only |
| **Colour** | Grey | Grey + red, green, terracotta | Grey only |
| **Buy it for** | — | Warehouses, car parks, process floors, showrooms, yards | Steel plants, heavy workshops, loading docks, rail platforms |

## TECHNICAL DATA (spec-driven targets @ 27°C — to be confirmed by batch COA & NABL)

**Base**
OPC 53 cement, graded quartz-silica aggregate, dispersing and water-reducing agents, pigment (coloured grades)

**Form / Colour**
Dry-shake granular powder — natural grey, red oxide, green, terracotta

**Aggregate**
Quartz ≥ 95% $SiO_2$, Mohs hardness ≥ 7, graded 0.2 – 2.0 mm, washed and kiln-dried

**Bulk Density (IS 1199 / ASTM C29)**
1.5 ± 0.1 kg/L

**Dosage — Light Duty**
3 – 4 kg/m² — foot traffic, trolleys, showrooms, car parks

**Dosage — Medium Duty**
4 – 5 kg/m² — forklifts on pneumatic / cushion tyres, warehouses

**Dosage — Heavy Duty**
5 – 7 kg/m² — loading bays, truck aprons, process floors

**Layer Thickness**
≈ 2.5 – 3.0 mm at 5 kg/m² · ≈ 3.5 – 4 mm at 7 kg/m²

**Abrasion Resistance (IS 1237 : 2012)**
≤ 0.8 mm thickness loss — target (plain concrete 2.5 – 3.5 mm)

**Abrasion Class (BS 8204-2 / EN 13892-4)**
Class AR1 (≤ 0.05 mm) — target; AR2 minimum

**Compressive Strength — hardened layer (EN 13892-2 / IS 516)**
≥ 70 N/mm² at 28 days

**Flexural Strength — hardened layer (EN 13892-2)**
≥ 10 N/mm² at 28 days

**Surface Hardness (Mohs)**
≥ 7 on trowelled surface

**Impact Resistance (EN ISO 6272 / BS 8204-2)**
Class IR2 (≥ 10 Nm) — target

**Light Reflectance — grey (ASTM E1347)**
≥ 35% (plain concrete ≈ 25%)

**Chloride Content (IS 2645)**
Nil — chloride-free

**Substrate Concrete**
M25 minimum, slump 75 – 110 mm, no air entrainment, W/C ≤ 0.55

**Application Window**
When surface water has evaporated and a thumb leaves an impression without sticking — typically 1 – 2 h after floating

**Curing**
Membrane curing compound (ADT WBCC) immediately after final trowel, or polythene / ponding 7 days

**Foot Traffic / Full Service**
24 h / 7 days (28 days for heavy forklift)

**Application Temperature**
5°C – 40°C substrate and ambient

**Packing**
30 kg HDPE laminated bag

**Shelf Life & Storage**
12 months — unopened, dry, 5 – 30°C, on pallets

**Reference Standards**
IS 1237 · IS 1199 · IS 516 · IS 2645 · BS 8204-2 · EN 13892-2 · EN 13892-4 · EN ISO 6272 · ASTM C29 · ASTM E1347

## DOSAGE & BAG CALCULATOR

**One rule everywhere:** area (m²) × dosage (kg/m²) ÷ 30 = bags. Choose the dosage by the heaviest wheel the floor will ever see, not the lightest. Add 5% for edges, columns and spreader loss.

| Floor type | Duty | Dosage | 1,000 m² needs | One 30 kg bag covers |
|---|---|---|---|---|
| Showroom, car park, residential podium | Light | 3.5 kg/m² | ≈ 117 bags (3.5 MT) | ≈ 8.5 m² |
| Warehouse — pneumatic / cushion forklifts | Medium | 4.5 kg/m² | ≈ 150 bags (4.5 MT) | ≈ 6.7 m² |
| Loading bay, truck apron, process floor | Heavy | 6.0 kg/m² | ≈ 200 bags (6.0 MT) | ≈ 5 m² |
| Exterior yard, wash bay (non-rusting required) | Medium – Heavy | 5.0 kg/m² | ≈ 167 bags (5.0 MT) | ≈ 6 m² |
| Coloured showroom / mall floor | Light – Medium | 4.0 kg/m² | ≈ 133 bags (4.0 MT) | ≈ 7.5 m² |

*Worked example: 5,000 m² warehouse, cushion-tyre forklifts — 4.5 kg/m² × 5,000 = 22,500 kg + 5% = 23,625 kg → ≈ 790 bags (23.7 MT). Plus ADT WBCC curing compound ≈ 5 L per 100 m². Coloured grades: order all bags for a floor from one batch — colour is matched per batch.*

## APPLICATION METHOD — STEP BY STEP

### Phase 1 — Slab & Timing

**1 GET THE SLAB RIGHT FIRST**

M25 minimum, slump 75 – 110 mm, no air-entrainer, ADT Plaster Mix 100 / admixture as per mix design. Level, screed and bull-float as normal. Stack bags beside the bay at the calculated rate before the pour.

**2 WAIT FOR THE WINDOW**

Let bleed water rise and evaporate. Never shake into standing water — drag it off with a hose. The window opens when a thumb leaves a 3 – 5 mm impression without concrete sticking to it — typically 1 – 2 h after floating, sooner in heat.

**3 FIRST SHAKE — 2/3**

Broadcast 2/3 of the dose evenly by mechanical spreader (preferred) or by hand in overlapping arcs. Wait until the powder darkens uniformly as it draws moisture from the slab.

**4 FLOAT IT IN**

Float with a bull float or power float on float shoes / pan. Do not overwork — the aim is to embed the quartz, not to bury it. Hand-float edges, columns and joints with a wood float.

### Phase 2 — Second Shake, Trowel & Cure

**5 SECOND SHAKE — 1/3, AT 90°**

Broadcast the remaining 1/3 at right angles to the first shake to close any thin spots. Wait for it to darken, then float again the same way.

**6 POWER TROWEL**

When the surface supports the machine and operator, trowel with combination blades, then finishing blades, increasing blade pitch on each pass until the surface is closed, hard and dense. Hard steel trowelling raises abrasion resistance; it may darken grey slightly.

**7 CURE THE SAME HOUR**

Spray ADT WBCC curing compound immediately after the final trowel pass (≈ 5 L per 100 m²), or cover with polythene sealed with sand for 7 days. No curing = dusting — every time.

**8 JOINTS & HANDOVER**

Saw-cut contraction joints within 12 – 24 h at the designed spacing; fill with ADT Seal MPU 150 after 28 days. Foot traffic 24 h, forklifts 7 days, full heavy service 28 days.

*Note: In hot or windy weather work in smaller bays, shade the pour and shorten the wait — the window closes fast. Coloured grades: same method; apply a matching coloured curing / sealing system, not a white-pigmented compound. Optional: 2 coats of clear acrylic floor sealer after 7 days for oil-heavy areas.*

## 8 SITE MISTAKES THAT WASTE A FLOOR HARDENER

**Shaking into bleed water**
The quartz sinks and the cement floats — a soft, dusting skin over a hard layer nobody can see. Wait for the window

**Shaking too late**
No moisture left to hydrate the powder — pitted, sandy surface that sweeps off in a month. Watch the thumb test, not the clock

**One shake instead of two**
Thin spots and stripes where the spreader missed. Two-thirds, then one-third at 90°, always

**Under-dosing to save bags**
Below 3 kg/m² there is no continuous layer — the floor wears in patches. Dosage follows the heaviest wheel, not the budget

**Wetting the surface to "help" trowelling**
Water on the surface at trowel stage = laitance = dusting. If it is too dry to trowel, the window was missed — do not chase it with water

**Over-floating**
Working the float too long drives the aggregate down and brings cement up. Embed, stop, wait, trowel

**No curing — "hardener hai, cure nahi lagta"**
Uncured hardener is the most common cause of dusting complaints. WBCC within the hour, no exceptions

**Air-entrained or wrong-slump concrete**
Air entrainment stops the powder wetting out; slump > 110 mm bleeds too long. Fix the mix design before the bags arrive

## TYPICAL SYSTEM BUILD-UPS

**Warehouse (VDF / tremix floor)**
M25 – M30 slab with Plaster Mix 100 + PP Fiber → vacuum dewatering → Floorhard NM 4.5 – 5 kg/m² → power trowel → WBCC → saw-cut joints → Seal MPU 150

**Car Park / Podium Deck**
Strongflex 2K membrane below screed (if over occupied space) → M25 screed → Floorhard NM 3.5 – 4 kg/m² coloured for bay marking → WBCC → joint sealant

**Exterior Yard / Wash Bay**
M30 slab, slope to drain → Floorhard NM 5 – 6 kg/m² (non-rusting) → WBCC → joints sealed → optional clear sealer

**Showroom / Mall Floor**
M25 slab → Floorhard NM 4 kg/m² in terracotta or green from one batch → hard trowel to burnish → coloured cure → clear sealer 2 coats

## AREAS OF APPLICATION

| Warehouses & Logistics | Car Parks & Podiums | Process & Food Floors | Exterior Yards |
|---|---|---|---|
| Forklift aisles, racking bays | Multi-level, basement, ramps | Wet areas — non-rusting | Truck aprons, wash bays |
| **Showrooms & Malls** | **Loading Docks** | **Workshops & Garages** | **Institutional** |
| Coloured, burnished finish | Rubber-tyred traffic | Oil-resistant dense surface | Hospitals, schools, halls |

## QUALITY HOLD POINTS — SIGN OFF BEFORE THE NEXT STEP

| Hold point | Check | Acceptance |
|---|---|---|
| **H1 Mix design** | Grade, slump, admixture, no air entrainer | M25+, slump 75 – 110 mm, delivery ticket checked per truck |
| **H2 Bags on site** | Quantity per bay, batch numbers, colour batch | Calculated bags stacked at the bay; one batch per floor for colours |
| **H3 Window** | Bleed water gone, thumb test | No standing water; 3 – 5 mm impression, no pick-up |
| **H4 Shakes** | Two shakes, dosage, coverage | 2/3 + 1/3 at 90°; bag count matches area × dosage ± 5% |
| **H5 Trowel** | Surface closed, no laitance, no added water | Dense, uniform sheen; no dusting under a dry cloth at 24 h |
| **H6 Cure & joints** | WBCC same hour; saw-cuts | Curing compound film visible on whole bay; joints cut within 24 h |

## SYSTEM PRODUCTS

**ADT Plaster Mix 100** + **ADT PP Fiber** — in the slab mix for a dense, crack-controlled base · **ADT Admix LPC / MPC** — water reduction for the slab · **ADT WBCC** — curing compound applied the same hour · **ADT Seal MPU 150** — saw-cut joint sealant · **ADT Floorhard MT** — where steel wheels and point loads demand a metallic layer · **ADT Strongflex 2K** — waterproofing below podium and car-park screeds

## FOR CONSULTANTS — READY SPECIFICATION CLAUSE

*Copy this clause directly into your BOQ / tender specification:*

"Concrete floors shall receive a non-metallic dry-shake surface hardener, ADT Floorhard NM or approved equivalent — a factory-blended, ready-to-use compound of Portland cement and graded high-purity quartz aggregate (≥ 95% $SiO_2$, Mohs ≥ 7), chloride-free and free of ferrous aggregate, broadcast in two applications onto freshly floated concrete at [4.5] kg/m² and power-trowelled to a dense monolithic finish, achieving abrasion resistance of not more than 0.8 mm thickness loss (IS 1237) and Class AR1 (BS 8204-2), compressive strength of the hardened layer not less than 70 N/mm² and flexural strength not less than 10 N/mm² at 28 days (EN 13892-2), on a base slab of minimum M25 with slump 75 – 110 mm and no air entrainment, followed immediately by a membrane curing compound, saw-cut joints within 24 hours and joint sealing after 28 days."

## PRECAUTIONS

A dry-shake hardener improves the surface of a sound slab — it does not correct poor concrete, poor compaction or poor curing. Not for use where acids or chemicals that attack concrete are handled, or where steel-wheeled traffic, concentrated point loads or drop impact occur — specify ADT Floorhard MT there. Do not apply into bleed water, onto air-entrained concrete, or after the surface has lost its moisture. Do not add water at any stage. Cementitious powder is alkaline when damp — avoid inhaling dust and skin or eye contact; wear gloves, goggles and dust mask; wash splashes with clean water; on eye contact rinse thoroughly and seek medical advice. Keep out of reach of children.

### IMPORTANT NOTICE

This is Draft v0.1 of the data sheet, prepared from ADT's manufacturing specification for this product. All values are specification targets that the manufacturer must meet or exceed; they will be replaced by tested values from the first-batch Certificate of Analysis and NABL laboratory report before release, and this document is not for external circulation until then. Users should verify suitability for their specific application and lay a trial bay before large-scale use. For floor design, dosage plans and site support, contact ADT technical support on the toll-free number below.

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