ADT FLOORHARD MT

METALLIC DRY-SHAKE FLOOR HARDENER | IRON AGGREGATE | BS 8204-2 CLASS AR0.5 | 30 kg

HEAVY DUTY · STEEL-WHEEL & POINT LOAD · IMPACT RESISTANT · DRY INTERIOR · 4 – 8 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 MT is a ready-to-use, metallic dry-shake floor hardener: a factory blend of OPC 53 cement, graded, processed and corrosion-treated ferrous 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 up to five times more abrasion-resistant than the slab and — unlike quartz — absorbs impact rather than shattering under it. It is the hardener for steel-wheeled trolleys, solid-tyre forklifts, drop-loading bays, heavy workshops and any dry interior floor where point load, not just traffic, is the enemy.

Quartz is hard; iron is tough. Where a wheel rolls, hardness wins. Where a load drops or a steel rim turns on the spot, toughness wins — and that is the floor Floorhard MT is built for.

KEY FEATURES & BENEFITS

Metallic Toughness — Core USP
Processed ferrous aggregate, graded 0.2 – 2 mm — abrasion loss ≤ 0.5 mm (IS 1237), BS 8204-2 Class AR0.5 target

Impact & Point-Load Resistant
Ductile iron aggregate absorbs drop impact and steel-wheel contact stress that fractures quartz — Class IR4 target

Corrosion-Treated Aggregate
Aggregate is degreased and passivated at the factory — no rust bloom on a dry interior floor

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

Non-Dusting, Non-Slip
Dense trowelled surface with a natural micro-texture — resists dusting and skidding under solid tyres

Higher Density Layer
Bulk density ≈ 2.0 kg/L — 30% more mass per m² than quartz at the same dosage

Three Duty Grades in One Bag
4 – 5 kg/m² medium · 5 – 6 heavy · 6 – 8 extra heavy — same product, dosage sets the duty

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

HARDNESS STOPS WEAR. TOUGHNESS STOPS BREAKAGE.

A quartz floor is harder than steel — and that is its weakness under a steel wheel: a hard, brittle grain under a hard, narrow load chips and pops out, and the pothole starts. Iron aggregate deforms a fraction and springs back; it takes the drop of a die, the turn of a steel castor, the skid of a pallet and stays put. Floorhard MT is specified at the top of the metallic class — abrasion loss under 0.5 mm, impact Class IR4 — with one honest limit printed on every bag: dry interior floors only. Where the floor gets wet, sell the client Floorhard NM.

WHERE IT SITS IN THE ADT RANGE

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

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

Base
OPC 53 cement, graded processed ferrous aggregate (degreased, passivated), dispersing and water-reducing agents

Form / Colour
Dry-shake granular powder — natural grey (darkens slightly on trowelling)

Aggregate
Ferrous (iron) aggregate ≥ 60% of blend by weight, graded 0.2 – 2.0 mm, oil-free, passivated — ferrous content declared on COA

Bulk Density (IS 1199 / ASTM C29)
2.0 ± 0.15 kg/L

Dosage — Medium Duty
4 – 5 kg/m² — solid-tyre forklifts, workshops

Dosage — Heavy Duty
5 – 6 kg/m² — steel-wheel trolleys, loading docks, rail platforms

Dosage — Extra Heavy Duty
6 – 8 kg/m² — drop-loading, die shops, steel plants, hangars

Layer Thickness
≈ 2.5 – 3.0 mm at 5 kg/m² · ≈ 4 mm at 8 kg/m²

Abrasion Resistance (IS 1237 : 2012)
≤ 0.5 mm thickness loss — target (plain concrete 2.5 – 3.5 mm)

Abrasion Class (BS 8204-2 / EN 13892-4)
Class AR0.5 (≤ 0.05 mm, special) — target; AR1 minimum

Compressive Strength — hardened layer (EN 13892-2 / IS 516)
≥ 80 N/mm² at 28 days

Flexural Strength — hardened layer (EN 13892-2)
≥ 12 N/mm² at 28 days

Impact Resistance (EN ISO 6272 / BS 8204-2)
Class IR4 (≥ 20 Nm) — target

Corrosion — aggregate
No rust bloom after 7-day humidity cabinet on trowelled panel (dry service); not for wet or exterior use

Electrical / Magnetic
Ferrous — not for floors requiring non-magnetic or spark-free surfaces (specify Floorhard NM)

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 steel-wheel and impact loading)

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

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
Workshop — solid-tyre forklifts, machine shop	Medium	4.5 kg/m²	≈ 150 bags (4.5 MT)	≈ 6.7 m²
Loading dock, rail platform, steel-wheel trolleys	Heavy	5.5 kg/m²	≈ 183 bags (5.5 MT)	≈ 5.5 m²
Die shop, drop-loading bay, steel plant	Extra heavy	7.0 kg/m²	≈ 233 bags (7.0 MT)	≈ 4.3 m²
Aircraft hangar, heavy-vehicle depot	Heavy	6.0 kg/m²	≈ 200 bags (6.0 MT)	≈ 5 m²
Wet or exterior floor of any duty	—	Use Floorhard NM	—	—

Worked example: 2,000 m² fabrication shop with steel-wheel trolleys — 5.5 kg/m² × 2,000 = 11,000 kg + 5% = 11,550 kg → ≈ 385 bags (11.6 MT). Plus ADT WBCC curing compound ≈ 5 L per 100 m². Bags are heavy for their size (density 2.0) — keep spreader hoppers half-full and shake in narrower passes than with quartz.

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: Metallic aggregate is dense — the second shake must go on before the first has fully stiffened or it will not embed. Work smaller bays than with quartz. Seal saw-cut joints and any exposed edges: rust bloom starts where water sits on cut aggregate. Optional: 2 coats of clear sealer after 7 days in 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

Using it on a wet or exterior floor
Iron aggregate rusts where water stands — orange bloom, then pop-outs. Wash bays, yards and process floors take Floorhard NM, not MT

TYPICAL SYSTEM BUILD-UPS

Heavy Workshop / Fabrication Shop
M30 slab with Plaster Mix 100 + PP Fiber → vacuum dewatering → Floorhard MT 5 – 6 kg/m² → power trowel → WBCC → saw-cut joints → Seal MPU 150

Loading Dock / Rail Platform
M30 slab → Floorhard MT 5.5 kg/m² → steel angle armouring at dock edges bonded with Strongbond → WBCC → joints sealed

Die Shop / Drop-Loading Bay
M35 slab, thickened → Floorhard MT 7 – 8 kg/m² → hard trowel → WBCC → 28-day cure before first drop load → joints sealed

Mixed Facility
Floorhard MT in the heavy bays and Floorhard NM in wet, exterior and office-facing areas — same 30 kg bag, same crew, same method

AREAS OF APPLICATION

Steel & Heavy Industry	Loading Docks	Rail Platforms & Depots	Die & Press Shops
Fabrication, rolling, forging bays	Steel-wheel trolleys, pallet drag	Continuous heavy traffic	Drop impact, point load

Aircraft Hangars	Power & Cement Plants	Heavy Workshops	Cold Stores (dry)
Heavy static + rolling load	Maintenance bays, turbine halls	Solid-tyre forklifts	Racking legs, hard castors

QUALITY HOLD POINTS — SIGN OFF BEFORE THE NEXT STEP

Hold point	Check	Acceptance
H1 Mix design	Grade, slump, admixture, no air entrainer	M30+ for heavy duty, slump 75 – 110 mm, delivery ticket checked per truck
H2 Bags on site	Quantity per bay, batch numbers, dry storage	Calculated bags stacked at the bay on pallets under cover; no torn bags
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 NM** — for the wet, exterior and coloured areas of the same facility · **ADT Strongbond** — bonding steel armouring angles at dock edges

FOR CONSULTANTS — READY SPECIFICATION CLAUSE

Copy this clause directly into your BOQ / tender specification:

"Heavy-duty interior concrete floors shall receive a metallic dry-shake surface hardener, ADT Floorhard MT or approved equivalent — a factory-blended, ready-to-use compound of Portland cement and graded, processed, passivated ferrous aggregate (not less than 60% by weight), chloride-free, broadcast in two applications onto freshly floated concrete at [5.5] kg/m² and power-trowelled to a dense monolithic finish, achieving abrasion resistance of not more than 0.5 mm thickness loss (IS 1237), Class AR0.5 (BS 8204-2) and impact resistance Class IR4 (EN ISO 6272), compressive strength of the hardened layer not less than 80 N/mm² and flexural strength not less than 12 N/mm² at 28 days (EN 13892-2), on a base slab of minimum M30 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. Wet-service and exterior areas shall receive the non-metallic grade in lieu."

PRECAUTIONS

A dry-shake hardener improves the surface of a sound slab — it does not correct poor concrete, poor compaction or poor curing. Dry interior floors only: not for wet-process, washdown, exterior or permanently damp floors, where the ferrous aggregate will rust — specify ADT Floorhard NM there. Not for use where acids or chemicals that attack concrete are handled, or where a non-magnetic or spark-free surface is required. 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.

एक अटूट भरोसा