How much sub-base do you need?

MOT Type 1 is the layer under a patio, a driveway and a shed base, and it is the one people under-order. This guide covers the depth each job wants, how the tonnage is worked out, and how that becomes a number of bulk bags — using the same 1.8 tonnes per cubic metre figure the paving, gravel and shed-base calculators all share.

What MOT Type 1 is for

MOT Type 1 is a crushed, graded aggregate used as a compacted sub-base. Its job is to turn a soft, uneven patch of ground into a firm, level platform that spreads the load of whatever sits on top — paving slabs and their bedding, a gravel surface, a concrete slab under a shed, or a block driveway.

The calculation itself is simple; the depth is the hard part. Three calculators do the same arithmetic:

- The paving calculator sizes the sub-base under slabs.
- The gravel calculator has a dedicated MOT Type 1 mode.
- The shed-base calculator sizes the sub-base under either a concrete or a paved base.

The maths: area × depth × 1.8 tonnes per cubic metre

Volume is the area multiplied by the compacted depth. Weight is the volume multiplied by **1.8 tonnes per cubic metre**, the typical compacted figure for MOT Type 1 and the density every one of these calculators uses.

From there, the calculators convert to the units merchants actually sell in. Bagged aggregate comes in **850 kg bulk bags** and **25 kg bags**, and the bulk-bag count is always rounded *up*, because a part bag is a bag you buy. Loose loads are sold by weight, and the gravel calculator also shows a practical order rounded to the nearest half tonne.

Depth: 100 mm or 150 mm?

The depth is where the money is, so use the figure the calculators print next to the box. **100 mm compacted** is the working figure for a footpath, a light patio that only sees people and garden furniture, or a shed base. **150 mm** is for anything a car will use — a driveway, or a parking space.

Depth only holds if the material is compacted properly, and compaction happens in layers. Spread the sub-base, compact it, then spread the next layer and compact that. A single thick layer compacted once from the top consolidates the surface and leaves the base of the layer loose, which is exactly the weakness the sub-base was meant to remove.

Worked example: a 6 m × 4 m patio at 100 mm

Take a 24 m² patio over a 100 mm compacted sub-base. The paving calculator, given a 6 m × 4 m area, 600 × 600 mm slabs, 10 mm joints, a 100 mm sub-base and a 40 mm bed, returns this for the sub-base:

The same 24 m² at 100 mm, through the paving calculator and the gravel calculator

CALCULATOR AND INPUTS	SUB-BASE RESULT
Paving calculator — 6 m × 4 m, 100 mm sub-base	**4.32 tonnes, worked out as 24.0 m² × 100 mm × 1.8 t/m³, ≈ 6 × 850 kg bulk bags**

CALCULATOR AND INPUTS	SUB-BASE RESULT
Gravel calculator — MOT Type 1 mode, 6 m × 4 m, 100 mm, 10% allowance	**2.64 m³ and 4.75 tonnes, ≈ 6 × 850 kg bulk bags or 191 × 25 kg bags, with about 5.0 t a practical order**

The two figures differ for one reason: the gravel calculator adds a **10% allowance** by default, for ground that is not dead flat and for what is lost raking the layer out to an even depth. The paving calculator works from the area and the depth alone. Both are right for what they are doing — and six bulk bags covers either answer, which is why the bag count is the practical number to order from.

Note how far the 25 kg bags run away from reality: 191 of them make up the same order. Bagged aggregate at that scale is a last resort, not a plan.

Worked example: a 3 m × 2 m shed base at 100 mm

Now a shed base — a 3 m × 2 m footprint, no overhang, a 100 mm sub-base and the calculator's default 10% allowance. The shed-base calculator returns:

A 3 m × 2 m shed base at a 100 mm sub-base

ITEM	RESULT
Base area	**6.00 m² (3.00 m × 2.00 m)**
MOT Type 1 sub-base	**1.19 tonnes — 6.00 m² × 100 mm × 1.80 t/m³, plus 10%**
Bulk bags (850 kg)	**2 bags**

The shed-base calculator takes its **1.8 t/m³** density by reference from the same figure the paving and gravel calculators use, so a shed base and a patio of the same area and depth cost the same in sub-base. Two bulk bags for a small shed is a job you can move yourself; a driveway is not.

Compaction, and what to buy

Compaction is the difference between a sub-base that works and a pile of aggregate. A plate compactor is the right tool for a patio or a shed base; a driveway wants a heavier vibrating roller. If you are hiring, it is worth doing in one go rather than spreading the job over two weekends, because the layers need to go down and be compacted in sequence.

On quantity, the calculators show all three buying routes, and the ordering is the same as the calculators print: tonnes if you are buying loose, bulk bags for a domestic job you can move, and 25 kg bags only for small areas. Above a few tonnes, loose is far cheaper per tonne — but check access, because a lorry cannot always reach where you want it.

Sub-base FAQs

- **How much MOT Type 1 does a 6 m by 4 m patio need?**
- **How deep should a sub-base be?**
- **How many bulk bags are in a tonne of MOT Type 1?**
- **Why do the paving and gravel calculators give different sub-base figures?**
- **Can I use MOT Type 1 loose rather than in bags?**

Rules that touch a sub-base

A new hard surface raises three points from the regulations library, and none of them is about the aggregate itself:

- **Planning — front hard surfaces.** There is a 5 m² permeable-surface condition where a hard surface sits between the front wall of a dwelling and a highway. Read the requirement.
- **Approved Document H — surface water.** Surface water from a paved area should discharge to a soakaway or other infiltration system where practicable. Read the requirement.
- **Approved Document C — ground level.** External ground level has to stay below the damp-proof course, which sits at least 150 mm above the adjoining ground. Read the requirement.

> **Guidance only.** The quantities above are planning estimates from the ProjectCalc calculators, not a quote and not a specification. Sub-base depth and ground conditions go together — soft clay or made ground is not the same job as firm subsoil — so where the ground is not what you expected, take advice from a competent person before you order.