

Granite Surface Plates

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Measuring & Inspection



Photo: USGS — Public domain — via Wikimedia Commons (Geology_of_the_Richmond_Basin_1899_Plate_XXI.jpg)

A granite surface plate is a precision flat reference surface used for marking out, measuring and inspecting components. Granite is stable, hard and non-magnetic, so it holds its flatness for decades and forms the base for height gauges, squares and DTIs.

Key Features

- Grades from toolroom to lab precision
- Sizes from 300 x 300 mm bench plates upward
- Lapped surface within microns of flat
- Non-magnetic and corrosion resistant
- Drilled and counterbored for mounts on larger plates

Typical Uses in the Workshop

- Support height gauges and scribing work
- Check squares, straightedges and parts for flatness
- Set up DTIs and stands for inspection
- Provide a datum for marking out and assembly

Safe Operation

1. Wipe the surface clean before each use
2. Place work and instruments directly on the plate
3. Apply light even pressure when marking out
4. Check parts with a DTI swept across the surface
5. Keep the plate covered when not in use

SAFETY NOTES

- The plate is heavy - use two people and proper lifting
- Do not drop tools on the surface
- Keep the plate free of grit that scratches
- Never hammer or set work on sharp edges
- Secure the plate against falling when stored upright

Maintenance & Consumables

- Clean with a lint-free cloth and solvent
- Apply a light oil film if stored long term
- Never scrape or grind the surface
- Check flatness with a precision straightedge periodically
- Recalibrate or re-lap at a specialist if damaged

Specification & Buying Notes

A 450 x 300 mm grade B plate covers most marking and measuring tasks. Choose granite over cast iron for stability. Ask about the calibration certificate and the stand or cradles.