

HAND PACKED STONE**(SURFACE OR BASE OPTION No. S 07)**

Image by Interconsult

INTRODUCTION

Hand Packed Stone Paving is one of a number of road surface improvement or paving options that use **natural stone** and are suitable for construction using **labour** and **simple equipment**. Other options are Water Bound Macadam (WBM), Dry Bound Macadam, Telford Paving, Cobble Stones, Stone Setts or Pavé, Dressed Stone and Stone Chippings. None of these options normally require the use of expensive bitumen or cement binders, or high-cost equipment. Therefore a high proportion of the costs may be spent in, and benefit, the local community. Hand Packed Stone Paving is suitable for use as a surfacing or road base in appropriate circumstances.

**DESCRIPTION**

Hand Packed Stone paving consists of a layer (typically 200 – 300mm thick) of large broken stone pieces, tightly packed together and wedged in place with smaller stone chips rammed by hand into the joints using hammers and steel rods. The remaining voids are filled with sand. The Hand Packed Stone is normally bedded on a thin layer of sand/gravel. For use by heavy traffic, the layer should be compacted with a vibrating or heavy non-vibrating roller. An edge restraint or kerb constructed (for example) of large or mortared stones improves durability.

ADVANTAGES

- Proven performance in all climates.
- Suitable for light to heavy traffic.
- Does not require expensive equipment to construct or maintain.
- Built with unshaped broken stones and laid by hand. It is therefore suitable for construction by small contractors or communities themselves, or in remote areas with access problems for crushing equipment or heavy plant.
- Can be constructed at any gradient.
- Low maintenance, easily repairable.
- Hand Packed Stone Paving can be later upgraded by covering with a sealing layer in a stage construction strategy.

DISADVANTAGES

- Requires hard stone to be available locally.
- Stones must not be rounded in shape.
- Requires skill in laying to achieve a smooth finished surface.
- For heavy traffic use, heavy compaction equipment should be used.
- Surface is porous, so foundations should not be liable to severe weakening when wet.
- Medium – high surface roughness; depending on labour skills.