

TELFORD PAVING

(SURFACE OR BASE OPTION No. S 05)



INTRODUCTION

Telford 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, Hand Packed Stone, 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. Telford Paving is suitable for use as a surfacing or road base in appropriate circumstances.

DESCRIPTION

Telford Paving was developed by Thomas Telford (born UK 1757) as a major development in road construction. It involves placing by hand a layer of broken stone pieces of approximately 75 – 175mm in size on a prepared soil foundation or sub base. Smaller stones are then packed between them, similar to the Hand Packed Stone technique. The initial layer is compacted and a second layer of graded crushed stones or gravel of maximum stone size 60mm is placed on top, and compacted to a final layer thickness of about 100mm. For use by medium 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	DISADVANTAGES
<ul style="list-style-type: none"> <input type="checkbox"/> Proven performance in all climates. <input type="checkbox"/> Suitable for light to medium traffic. <input type="checkbox"/> Does not require expensive equipment to construct or maintain. <input type="checkbox"/> 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. <input type="checkbox"/> Easily repairable. <input type="checkbox"/> More durable than gravel/laterite. <input type="checkbox"/> Telford Paving can be later upgraded by covering with a sealing layer in a stage construction strategy. 	<ul style="list-style-type: none"> <input type="checkbox"/> Requires hard stone to be available locally. <input type="checkbox"/> Stones must not be rounded in shape. <input type="checkbox"/> Steep grades (>6%) have increased erosion risk. <input type="checkbox"/> For medium traffic use, vibrating or heavy compaction equipment should be used. <input type="checkbox"/> Surface is porous, so foundations should not be liable to severe weakening when wet. <input type="checkbox"/> Medium surface roughness. <input type="checkbox"/> Not suitable for high rainfall locations if un-surfaced (due to surface material losses) <input type="checkbox"/> Medium maintenance requirements if un-surfaced.