

Installation Guideline for Tensar Biaxial Geogrid at the Subgrade/Subbase Interface

This installation guideline applies to Tensar biaxial geogrid supplied by Tensar International or any of its appointed distributors. It applies to both the permanent and temporary stabilisation of areas over which vehicular access is required.

Product Specifications for Tensar geogrids are available on request from Tensar International.

Subgrade Preparation

For subgrades over which construction plant cannot safely traverse:

Tensar geogrid shall be laid directly on the site, having removed major protrusions such as rocks and tree and bush stumps and also having filled local hollows and depressions with the approved fill but otherwise retaining the vegetation and topsoil covering the site.

or where site conditions permit:

The subgrade shall be levelled in accordance with the UK Manual of Contract Documents for Highway Works (MCDHW) Volume 1 Specification for Highway works, Series 600,

or as described in the Contract Documents.

Placing Tensar Geogrid

Tensar geogrid may be placed on the subgrade either parallel to the road centre line or in the transverse direction. If a geotextile separator has also been specified with the geogrid, then the geogrid must be placed above the geotextile (so that the placed fill can interlock with the apertures of the geogrid).

Jointing Techniques

Simple Overlaps

This is the normal method employed on site as it generally presents the quickest and most economic means of making an effective joint.

The width of overlap between adjacent rolls is dependent upon the grading and thickness of sub-base and the stiffness of the subgrade. The minimum overlap shall be 300mm and the maximum normally required shall be 600mm or as directed within the Contract Documents.

Overlaps must be maintained during the filling operation. This is generally achieved by placing small heaps of fill locally over the overlaps ahead of the main filling operation.

Subbase

A graded aggregate is suitable for the subbase. Type 1 or 2 is recommended, as described in UK Manual of Contract Documents for Highway Works (MCDHW) Volume 1 Specification for Highway Works, Series 800, clauses 803 and 804 respectively. (grading given in Table 1 below).

BS sieve size mm	Percentage by mass passing	
	Sub-base Type 1	Sub-base Type 2
75	100	100
31.5	75-99	75-99
16	43-81	50-90
8	23-66	30-75
4	12-53	15-60
2	6-42	
1	3-32	0-35
0.063	0-9	0-9
	The size fraction of the unbound mixture passing the 0.425 mm size test sieve shall be non-plastic as defined by BS 1377-2 and tested in compliance therewith	The size fraction of the unbound mixture passing the 0.425 mm size test sieve when tested in compliance with BS 1377-2 shall have a plasticity index of less than 6

Table 1 Subbase Type 1 and Type 2 Range of Grading

Contact Tensar International or a local Tensar Distributor for specific advice when fill other than Type 1 or 2 sub-base is proposed to be used.

Placing Subbase

Lorry loads of subbase material shall be tipped into stockpiles on subbase and not tipped directly onto the geogrid. The subbase stockpiles shall be spread by mechanical plant which causes the aggregate to cascade onto the geogrid, such as an excavator bucket or dozer with an opening bucket.

Subbase shall be spread in layers of not less than 150mm thickness. The maximum layer thickness shall be as specified within the Contract Documents.

In the stabilisation of wide and broad areas, sub-base aggregate shall be spread such that the first layer advances across roll widths rather than along roll lengths.

Care shall be taken to avoid damage to the geogrid. No traffic or site plant shall be permitted to travel on the geogrid prior to placing sub-base aggregate.

Compaction

Compaction of unbound materials for subbase and road base shall normally be carried out in accordance with UK Manual of Contract Documents for Highway Works (MCDHW) Volume 1 Specification for Highway works, Series 800. Compaction of other fills shall be carried out in accordance with (MCDHW) Volume 1 Specification for Highway works, Series 600

Over exceptionally soft subgrade the degree of compaction applied to the lowest layer of fill may have to be reduced from the above DoT Clauses. Details shall be specified within the Contract Documents.

Contact Tensar International for specific advice.

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