

11 (02/16) Where the Contractor proposes to use the unbound mixture layers for construction plant he shall improve these layers where necessary, to accommodate the method of construction and the type of plant and vehicles which he proposes to use, in order to avoid damage to the laid layer(s), any capping and the subgrade. Any permanent thickening shall be across the whole width of the pavement. Temporary thickening shall not impede drainage of any layer or the subgrade.

(02/16) **Trafficking Trial**

12 (02/16) When required by contract specific Appendix 7/1, the Contractor shall undertake a Trafficking Trial incorporating the unbound mixture proposed for use in the permanent works. A trial area shall be constructed, trafficked and assessed in accordance with the procedure described in sub-Clauses 13 to 18 of this Clause. The mean vertical deformation after 1000 equivalent standard axles shall be less than 30 mm when measured in accordance with the procedure stated in sub-Clause 17 of this Clause.

Proposals for trafficking trials shall be submitted to the Overseeing Organisation for review and acceptance five days in advance of construction.

(02/16) **Trial Procedure**

13 (02/16) The trial area shall be located on a formation prepared in accordance with the specification. The trial area may be located so that it can be incorporated within the permanent works if the resistance to wheel track rutting is demonstrated to comply with sub-Clause 12 of this Clause.

14 (02/16) The trial area shall be at least 60 m long, and of sufficient width that when trafficked, the wheel paths of the test vehicle shall be at least 1 m from either edge of the top of the unbound mixture layer. The unbound mixture layer shall be compacted to the thickness specified in contract specific Appendix 7/1. The formation shall extend for a further 1 m either side of the unbound mixture layer.

15 (02/16) A sufficient run off/run on area shall be constructed at each end of the trial area of the same width, and compacted to the same level, as the trial area, to ensure correct tracking by the test vehicle and minimise dynamic effects of the vehicle bouncing on its springs. Suitable guidance shall be given to assist the driver in maintaining the same track in each pass and to achieve channelled trafficking. Examples of suitable guides would be a string or painted line.

(02/16) **Mixtures**

16 (02/16) The unbound mixture used in the trial shall be transported, laid and compacted using the equipment proposed for use in the works.

17 (02/16) Maximum vertical deformation shall be measured in both wheel tracks using optical or laser levels at pre-determined monitoring points on five transverse lines spaced equally along the length of the trial bay. The transverse lines at the ends of the trial area shall be at least 5 m from the run off/run on areas. The average deformation of the two wheel tracks after 1000 standard axles shall be recorded.

(02/16) **Reporting and Acceptance of Trafficking Trial Area**

18 (02/16) The Contractor shall provide the Overseeing Organisation, for acceptance, with a report on the Trafficking Trial, stating how the use of the unbound mixture was validated. The main construction of the permanent works shall not start until the Trafficking Trial area has been accepted by the Overseeing Organisation within two working days of receiving the Trafficking Trial area report.

803 (02/16) **Type 1 Unbound Mixtures**

1 (02/16) Type 1 unbound mixture shall be made from crushed rock, crushed slag, crushed concrete, recycled aggregates or well burnt non-plastic shale and may contain up to 10% by mass of natural sand that passes the 4 mm test sieve. Where permitted by contract specific Appendix 7/1, crushed gravel complying with sub-Clause 803.7 may be used.

2 (02/16) The mixture shall comply with BS EN 13285 and the requirements of Table 8/1. The grading requirements for the mixture are summarised in Table 8/5.

TABLE 8/5: (02/16) Summary Grading Requirements for Type 1 and Type 4 Unbound Mixtures

Sieve size, mm	Percentage by mass passing		
	Overall grading range	Supplier declared value grading range	Tolerance on the supplier declared value
63	100		
31.5	75 – 99		
16	43 – 81	54 – 72	± 15
8	23 – 66	33 – 52	± 15
4	12 – 53	21 – 38	± 15
2	6 – 42	14 – 27	± 13
1	3 – 32	9 – 20	± 10
0.063	0 – 9		
Grading of individual batches – differences in values passing selected sieves			
Retained sieve size, mm	Passing sieve size, mm	Percentage by mass passing	
		Not less than	Not more than
8	16	7	30
4	8	7	30

3 (02/16) The properties of aggregates used in the mixture shall be in accordance with BS EN 13242 and the requirements of Table 8/2.

4 (02/16) 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.

5 (02/16) Where the mixture contains recycled coarse aggregate or recycled concrete aggregate, it shall comply with sub-Clause 801.5.

6 (02/16) The mixture shall be transported, laid and compacted without drying out or segregation.

(02/16) Additional Requirements for Mixtures Containing Crushed Gravel

7 (02/16) For the purposes of this Clause, gravel is defined as aggregate derived from a natural, unconsolidated, coarse-grained sedimentary deposit consisting of water-worn rock fragments. Crushed gravel aggregate shall be derived from natural cobbles retained on the 63 mm test sieve and comply with the crushed, broken and totally rounded particles requirement in Table 8/2.

8 (02/16) Where required by contract specific Appendix 7/1, mixtures containing crushed gravel coarse aggregate shall comply with the minimum CBR requirement in sub-Clause 801.6. Where required by contract specific Appendix 7/1, mixtures containing crushed gravel coarse aggregate shall be assessed using a trafficking trial complying with sub-Clause 802.12.

804 (02/16) Type 2 Unbound Mixtures

1 (02/16) Type 2 unbound mixture shall be made from natural sands, gravels, crushed rock, crushed slag, crushed concrete, recycled aggregates or well burnt non-plastic shale.

2 (02/16) The mixture shall comply with BS EN 13285 and the requirements of Table 8/1. The grading requirements for the mixture are summarised in Table 8/6.