

ENHANCED ASPHALT

LAYING GUIDE

January 2016



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1. INTRODUCTION

The Enhanced asphalt range complies with SROH requirements and has been designed to give better compaction when used in small openings and trenches where compaction equipment is restricted.

2. TRANSPORT

A mobile hotbox or sheeted, fully insulated vehicles should be used to transport the asphalt to the work site. Small loads are more susceptible to cooling and the use of insulating duvet will give additional protection. The duvet should be in place whenever the asphalt is not being taken from the vehicle. The use of vehicles fitted with chutes allows the material to be used without removal of the sheet. It is important that temperature checks are carried out to ensure that the material is still suitable for use. Temperature guidance is given in Table A2.3 of SROH and compaction may be difficult at lower temperatures. Material that has fallen below the temperatures shown below may be more difficult to compact and could result in failure to meet air voids requirements.

Temperature Guidance (from SROH Table A2.3)		
Binder Grade	AC Dense Binder Course or Base	AC Dense or Close Graded Surface Course
40/60 Pen	130°C	Not in SROH
100/150 Pen	120°C	120°C
160/220 Pen	110°C	110°C

3.PLACEMENT AND COMPACTION

The asphalt should be placed and compacted without delay to minimise cooling. It is important that the layer thicknesses and number of lifts comply with SROH.

Compacted Lift Thickness (mm) – Bituminous Mixtures (from SROH Table A2.1)				
		Compacted Lift Thickness (mm)		
Material Type	PD 6691 Reference	Minimum at any point	Nominal Lift Thickness	Maximum at any point
6mm DSC	AC 6 dense surf	15	20-30	40
10mm CGSC	AC 10 close surf	25	30-40	50

Compaction equipment should be appropriate for the area to be reinstated. Plate compactors may not operate effectively within small openings and the use of a vibrotamper should be considered for compaction of lower asphalt layers.

Where a roller is used for the surface layer, care should be taken to ensure that the roller does not bridge the opening as that can prevent the asphalt being fully compacted. SROH provides guidance on the minimum number of passes in the Notes for Guidance and Table NG A8.3 is reproduced below. Material at the lower end of the temperature range may require greater compaction.

Compaction requirements for Bituminous Mixtures (from SROH Table NG A8.3)				
Compaction Plant and Weight Category	Bituminous Mixtures			
	Minimum Passes/ Lift for compacted lift thickness up to			
	40mm	60mm	80mm	100mm
Vibrotamper 50kg minimum	5#	7#	NR	NR
Vibrating Roller				
Single Drum				
600-1000 kg/m	10	12	NR	NR
1000-2000 kg/m	6	10	NR	NR
2000-3500 kg/m	5	7	8	NR
Over 3500 kg/m	4	6	7	NR
Twin Drum				
600-1000 kg/m	5	7	NR	NR
1000-2000 kg/m	4	5	6	8
Over 2000 kg/m	3	4	4	6
Vibrating Plate				
1400-1800 kg/m ²	6	NR	NR	NR
Over 1800 kg/m ²	3	5	6	8
All above plant	For maximum and minimum compacted lift thickness, see table above			
Alternative Compaction Plant for Areas of Restricted Access (including small excavations and trenches less than 200 mm width)				
Vibrotamper 25kg minimum	Minimum of 6 compaction passes Maximum of 75 mm compacted lift thickness			
Percussive Rammer 10kg minimum				

Notes from SROH Table NGA8.3:

- 1) NR = Not Recommended
- 2) # = Vibrotamper not recommended on permanent surface course of trenches > 500mm width
- 3) Twin drum vibrating rollers are preferred for compaction of bituminous mixtures
- 4) Single drum vibrating rollers are vibrating rollers providing vibration on only one drum
- 5) Twin drum vibrating rollers are vibrating rollers providing vibration on two separate drums