

**SECTION 92-FIELD TESTS OF BITUMINOUS BINDERS**

2119. Field tests are confined to: -

- a. Differentiation between bitumen and tar.
- b. Determination of type (bitumen only).
- c. Rough assessment of grade.

2120. They will usually serve to ascertain:

- a. Whether the material is suitable for work proposed.
- b. What constructional process should be used.
- c. The cause of a failure.

2121. The chart shown in Figure 21.1 forms a guide to field tests and their sequence.

2122. The type of a road tar cannot be established by rapid field test, but grade can be assessed roughly by the test applicable to bitumen.

**TABLE 21.2-CLASSIFICATION OF BINDERS OF UK AND US GRADES,  
WITH A GUIDE TO THEIR USES**

NOTE: For actual type and viscosity of binder to use for each particular method construction see relevant tables

RESTRICTED

a. STRAIGHT-RUN BITUMEN

UK grader		US grades	use	See Table	Remarks
Available in UK	Available abroad	Available abroad			
Penetrations at 25°C					
(a)	(b)	(c)	(d)	(e)	(f)
400/500	400/500	-	Fine cold asphalt	62	Fluxed lake asphalt of similar grading can be used as an alternative for all methods of construction shown, with the exception of fine cold asphalt  *The manufacture of mastic asphalt is not covered in this pocket book
280/320	280/320	200/300		60	
190/210	180/200	150/200	Bitumen macadam		
90/110	130/150	120/150		49	
	80/100	100/1200	Surface dressing	56	
60/70	60/70	70/85			
	50/60	60/70	Grouting		
40/50	40/50	50/60		63	
30/40	30/40	40/50	Rolled asphalt		
20/30	20/30				
10/20	10/20		Mastic asphalt*		

RESTRICTED

b. CUT-BACK BITUMEN

UK grader		US grades		use	See Table	Remarks
Available in UK	Available abroad	Available abroad				
Approx	STV in sees	at 25°C	Designati on			
(a)	(b)	(c)	(d)	(e)	(f)	(g)
	50/100	0.4/0.8	0	} Priming coat	49	Use cut- backs are manufactured in 3 grades RC, MC, and SC. See also Para 405 (b)
		2/4	1			
		8/16	2			
		30/60	3			
104/156 (20/30 at 40°C) 240/360 (40/60 at 40°C )	100/150  150/200 200/300  300/400 400/500 500/700	100/200	4	} Dry sand process surface dressing	65 56	UK grade cut-backs available in UK are normally classified in column (a)
560/840 (80/120 at 40°C)		350/700	5			
				} Bitumen macadam Grouting	60 56	A special cut-back with a viscosity of 120/140 sacs at 40°C is available in UK for the manufacture of fine cold asphalt

RESTRICTED

1360/2040 (160/240 at 40°C)						A low viscosity cut back known as SRO (special road oil) is available in UK and abroad for the manufactures of wet sand mix. Its viscosity range is 15/50 Sacs at 25°C
	750/1125					

c. ROAD TAR

RESTRICTED

UK grader		US grades		use	See Table	Remarks
Available in UK	Available abroad	Available abroad				
Type	Viscosity EVT	Approx EVT	Designation			
(a)	(b)	(c)	(d)	(e)	(f)	(g)
A	13-20	13-18	RT 1	Priming coat	49	*The manufacture of premix containing high viscosity and Type C tar is not covered in this pocket book.
			RT 2			
			RT 3			
			RT 4			
			RT 5			
			RT 6			
A	20-27	20-28	RT 7	Surface dressing	65 56	
A	27-34	28-32	RT 8			
A	34-41	32-39	RT 9			
A	41-48	39-44	RT 10	Grouting	60 56	
		44-49	RT 11	Tar macadam		
A	48-55	51-57	RT 12			
B	27-34			Wet sand mix		
B	34-41					
B	41-48					
B	48-55					
C	34-41			92-5 RESTRICTED		
C	41-48					

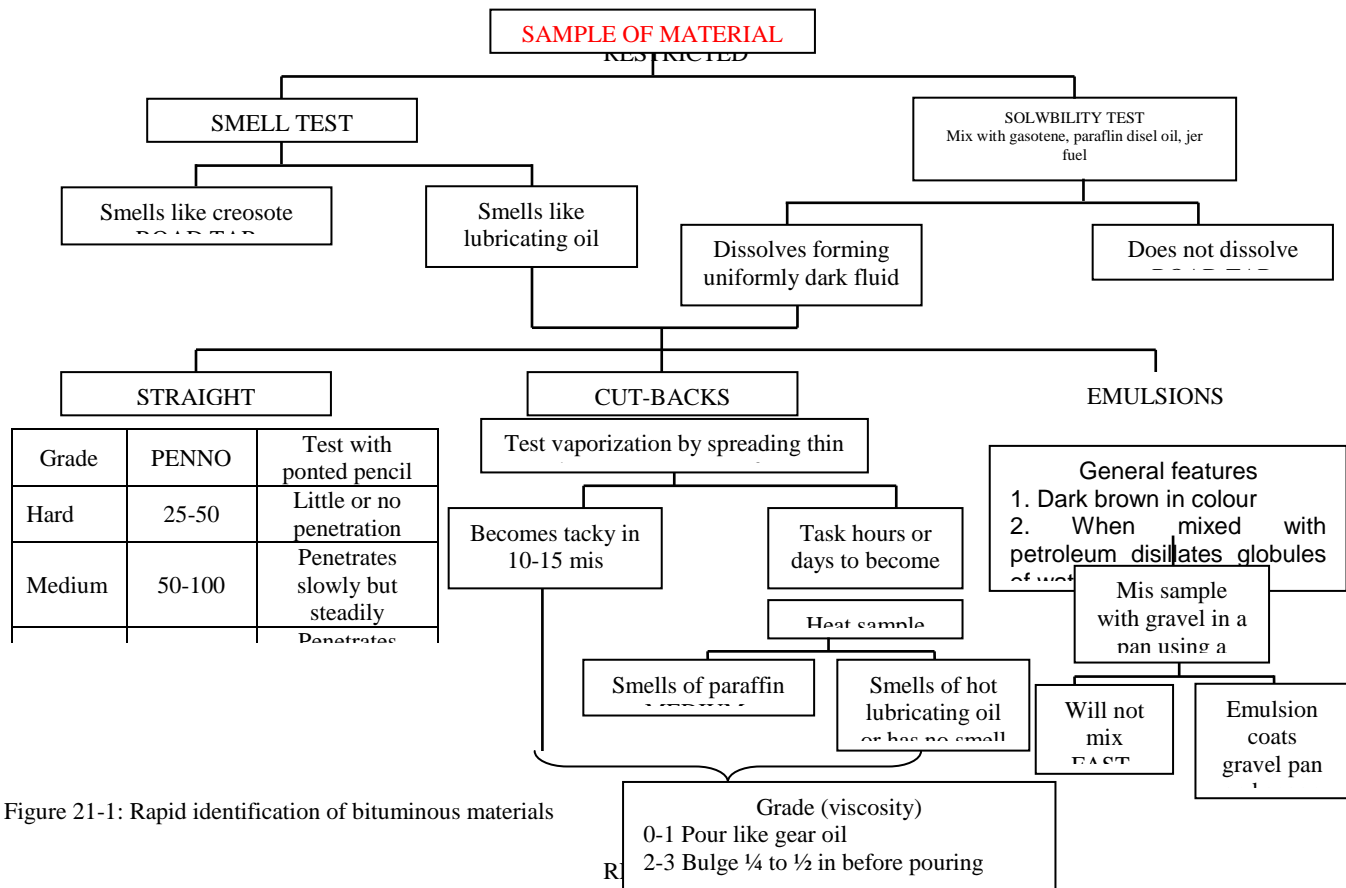


Figure 21-1: Rapid identification of bituminous materials