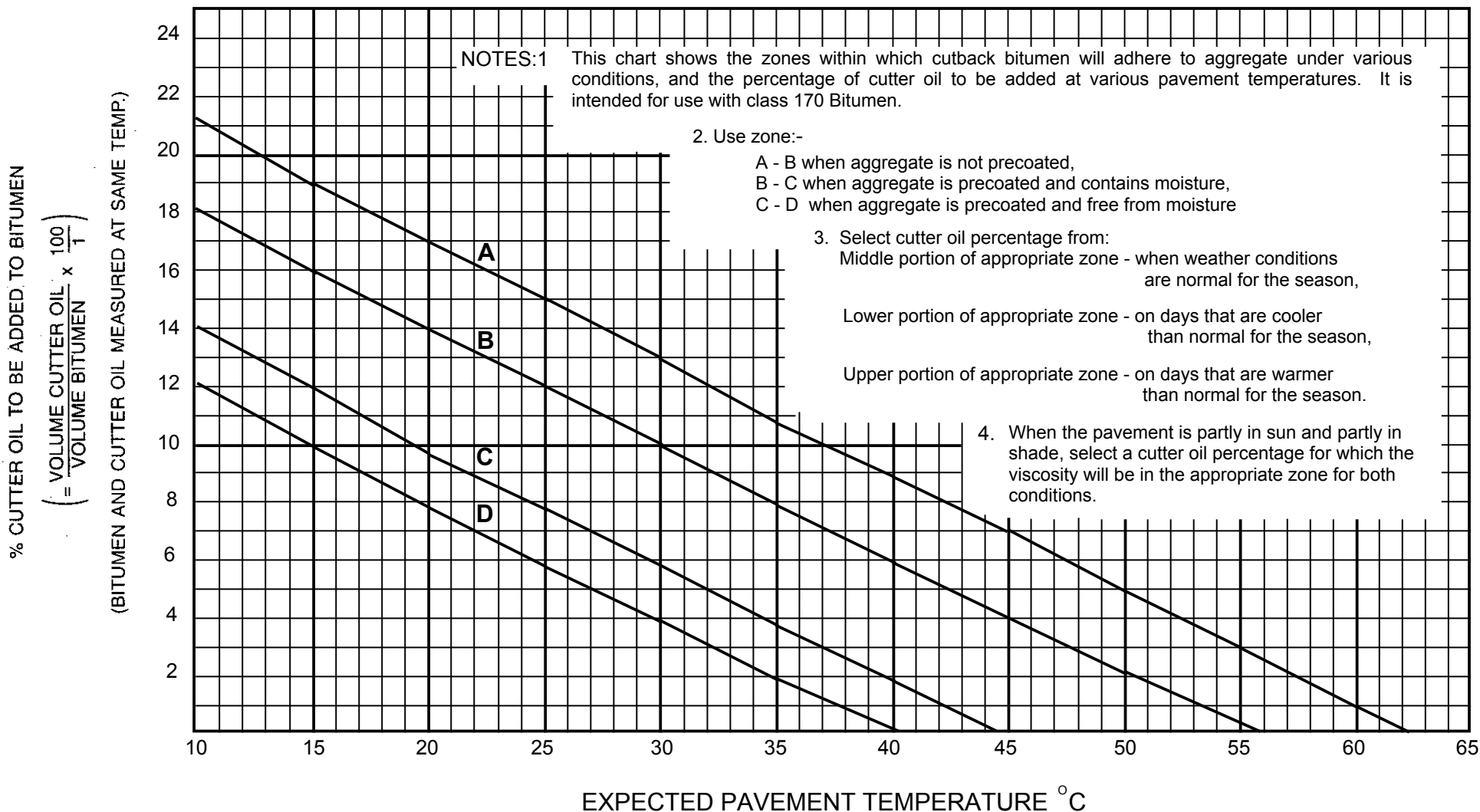


Roads & Maritime Services SPRAYED BITUMINOUS SURFACING CUTBACK CHART

(This Form is **not** to be used for the selection of cutter oil percentage for primes and primerseals. Refer to Form 395A)



EXAMPLE: Data - Expected pavement temperature at time of spraying is 22°C. Aggregate is precoated and free of moisture

Method - Use viscosity zone C - D
Follow the 22°C vertical line to the middle zone C - D. Opposite this point read the percentage cutter oil required in the mixture as 8% approximately.

DETERMINATION OF APPLICATION RATE OF HOT CUTBACK BITUMEN BINDER FOR SEALS AND RESEALS

The two steps in calculating the application rate of hot cutback bitumen binder are outlined below:

(i) Determination of application rate of cold cutback bitumen

$$\boxed{\text{Application rate of cold cutback bitumen binder}} = \boxed{\text{Application rate of cold residual bitumen}} \times \boxed{\frac{100}{100 - \% \text{ of cutter oil}}}$$

(ii) Determination of application of hot cutback bitumen

$$\boxed{\text{Application rate of hot cutback bitumen binder}} = \boxed{\text{Application rate of cold cutback bitumen}} \times \boxed{\text{Multiplier from RMS Form 500C spraying temperature}}$$

Example 1

If the cold bitumen application rate is 0.95 L/m² and the selected cutter oil content to be used is 6% then;

$$\begin{aligned} \text{Application Rate of Mixture (Cold)} \\ &= 0.95 \times \frac{100}{100-6} \\ &= 1.01 \text{ L/m}^2 \end{aligned}$$

If the proposed spraying temperature is 150°C and the cold application rate of mixture is 1.01 L/m², then:

$$\begin{aligned} \text{Application Rate of Mixture (@ 150°C using multiplier from RMS 500C)} \\ &= 1.01 \times 1.0897 \\ &= 1.10 \text{ L/m}^2 \end{aligned}$$

Example 2

If the cold bitumen application rate is 0.60 L/m² and the selected cutter oil content to be used is 12% then;

$$\begin{aligned} \text{Application Rate of Mixture (Cold)} \\ &= 0.60 \times \frac{100}{100-12} \\ &= 0.68 \text{ L/m}^2 \end{aligned}$$

If the proposed spraying temperature is 135°C and the cold application rate of mixture is 0.68 L/m², then:

$$\begin{aligned} \text{Application Rate of Mixture (@ 135°C using multiplier from RMS 500C)} \\ &= 0.68 \times 1.0792 \\ &= 0.73 \text{ L/m}^2 \end{aligned}$$

MAXIMUM HEATING TEMPERATURES FOR CUTBACK BITUMEN BINDERS															
Cutback Bitumen	Conventional Cutter Oil									Fast Evaporating Cutter Oil					
	Grade	AMC00	AMC0	AMC1	AMC2	AMC3	AMC4	AMC5	AMC6	AMC7	FC2	FC3	FC4	FC5	FC6
Equivalent % Cutter Oil	56	44	34	27	21	16	11	7	3	25	20	15	10	7	3
Max. Heating Temperature (°C)	30	55	80	100	115	135	150	160	175	95	95	110	140	150	160

Source: Table 6.2, RMS Sprayed Sealing Guide (1991)