



THE CHEMICAL DIVISION OF COLAS

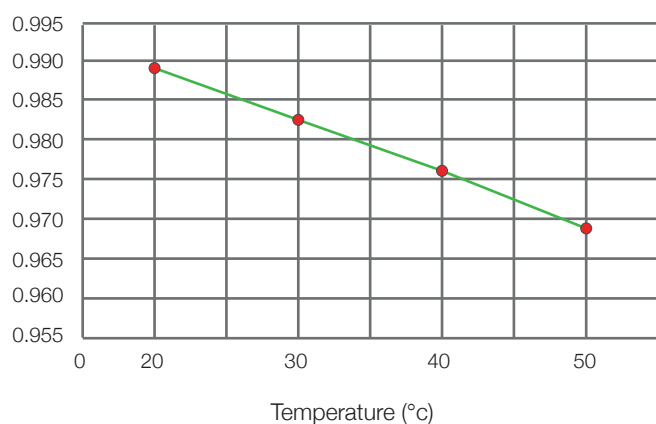
# CWM



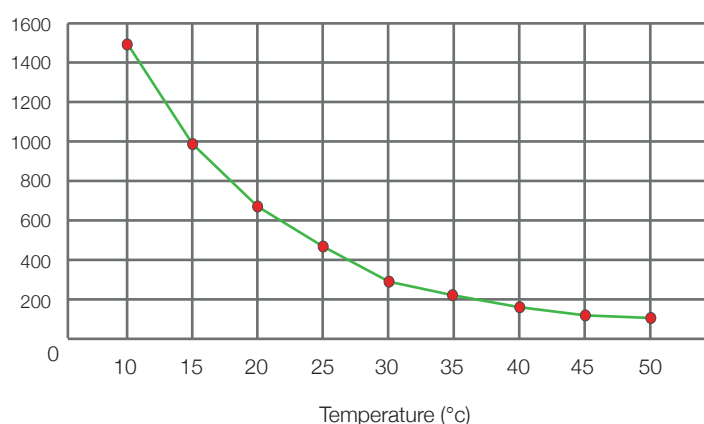
CWM is a mixture of surface active agents used as an additive for bitumen. Hot Mixes manufactured with bitumen containing CWM are known as Warm Mixes as they can be manufactured at lower than normal temperatures and laid at temperatures as low as 120°C.

CHARACTERISTICS	METHODS	SPECIFICATIONS	TYPICAL VALUES
Physical state at 20°C	Visual test	Liquid	-
Alkalinity index (mg HCl/g)	MOPCST PC-006	> 120	160
Density at 20°C (g/cm <sup>3</sup> )	CHEM 004	0.99 ± 0,05	-
Flash point, closed cup (°C)	EN 22719	>200	220
Viscosity at 25°C (mPa.s)	MOPCST PC-029	-	470
Cloud point	CHEM 003	-	< -5°C

## DENSITY CWM (g/cm<sup>3</sup>)



## VISCOSITY CWM (mPa.s)



## FORMULATION EXAMPLES (refer to CST Technical Note N°154)

Type of mix	BBTM 0/10	EME 0/14	GB 0/14 with 30% RAP
Bitumen type and dosage	5.6% Pmb	5.4% 10/20	3.1% 35/50
CWM dosage	0.4% of binder	0.4% of binder	0.4% of total binder content

Once added to the bitumen, CWM will remain active in the stored bitumen for up to three days.

## STORAGE AND HANDLING CONDITIONS (refer to Chemoran guide)

CWM must be protected from exposure to water and to long-term exposure to atmospheric moisture. When mixed with water, a chemical reaction can occur which may lead to a reduction in the performance of the additive. Water may also flash/splash when added to the hot bitumen. Atmospheric moisture contamination takes place slowly on the additive surface exposed to moist air. When in use, protect from rain and seal tightly when not in use. Do not leave small amounts in containers for long periods before using it. Inspect the storage container and all seals for damage or leaks.

CWM must be protected from frost. Continued cold weather storage can lead to major increase in the viscosity of the CWM. This can lead to difficulties in pumping the additive.

Also some precipitation may take place at low temperatures. If this occurs the additive should be heated or agitated thoroughly to insure a homogeneous mixture before use. The cloud point of CWM is below -5°C.

CWM is compatible with Chemoran adhesion agents.

## PACKING

Drum of 200Kg / IBC of 1000Kg