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## EMULSION COLD MIXES

### Definitions – Terminology

Emulsion cold mixes, often termed «cold mix asphalts» or «emulsion cold mix asphalts», belong to the family of **cold hydrocarbon asphalts** defined in standard NF 98149 «Hydrocarbon asphalts - Terminology» of June 2000, which implicitly assumes use of the emulsion: «a hydrocarbon asphalt made from aggregates, a hydrocarbon binder and possibly also dopes and/or additives, the characteristics of which enable the aggregates to be coated without drying and heating». The aggregates comply with European standard NF EN 13043 and French standard XP P18545.

This standard subdivides cold hydrocarbon asphalts into two sub-classes – storable and non-storable – defined as below.

### Non-storable asphalts

The different types of asphalts defined in the above standard are as follows:

- **Cold mix asphalt concrete**

«Non-storable hydrocarbon asphalt (to be used within 24 hours) intended for laying wearing courses on pavements carrying light or medium traffic loads. The layer thickness ranges from 5 to 8cm».

- **Slurry seal**

«Cold hydrocarbon asphalt, manufactured and poured in-situ continuously using dedicated equipment adapted to the consistency of the slurry, characterised by a diameter  $D < 6.3\text{mm}$  and intended to waterproof or repair the support before the wearing course is laid.».

- **Micro surfacing**

«Cold hydrocarbon asphalt, manufactured and poured in-situ continuously using dedicated equipment adapted to its consistency, characterised by a value of  $D \geq 6.3\text{mm}$  and intended for laying wearing courses to ensure good adhesion and render the support impermeable».

- **Grave-emulsion (GE)**

«Cold hydrocarbon asphalt intended either for reprofiling or executing base courses».

### Storable asphalts

The above standard gives the following definition:

- **Storable cold asphalt**

«Cold hydrocarbon asphalt capable of being stored for several weeks or several months, intended for routine maintenance of pavements (local repairs, regulating small defects, etc.) or minor tasks, playing no structural role in the pavements».

Apart from micro asphalts and slurry seals (see chapter entitled «Micro surfacings»), these definitions are incomplete, since they do not cover all practices ; for instance, certain grave-emulsions can be stored and cold mix asphalt concretes are preferably applied in thicknesses of 2 to 8cm (see chapter entitled «Grave-emulsion»). In addition, new processes are being developed in which a fraction of the material is pre-coated hot, or the entire mix is warmed up. Accordingly, it would appear more preferable to speak of «emulsion cold mix asphalts», rather than «cold asphalts». This is even more relevant considering that placing of emulsion cold mixes in very cold weather is not advised.