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Cold-laid asphalt for patching

24th July 2025



COTO on cold-laid asphalt

- Cold mix asphalt (CA) – asphalt, generally including a proprietary agent that has been pre-mixed in a mixing plant, packaged and stored for future applications at ambient temperatures.
- Cold mix products may also be prescribed as being fit for purpose for specific applications as certified by an approved independent certification agency.

Cold-laid asphalt: cold mixed



Cold-laid asphalt: warm or hot mixed



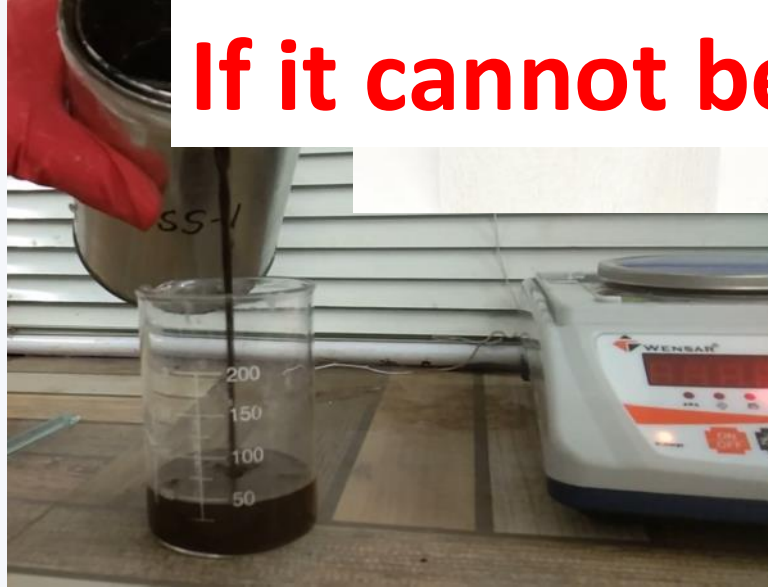
Cold-laid asphalt composition



Cold-laid asphalt composition



If it cannot be tested, it should not be part of it!



Cold-laid asphalt composition

COLAS PRODUCTS AND APPLICATIONS MANUAL

Colas paving the way forward



(a) Anionic premixes with Stable Grade emulsion

Cold dense graded mixes are easily prepared with Anionic Stable Grade 60% emulsion.

A typical anionic cold mix composition is as follows:

14 mm stone	- 1 x 25 litres
10 mm stone	- 1 x 25 litres
Crusher dust	- 2 x 25 litres
Cement	- 1,5 kg
Anionic Stable Mix 60%	- 17 litres
Water (if required)	- 5 litres (max)

Note: The above mix is suitable for patches deeper than 25 mm. For patches less than 25 mm deep, the mix below is recommended:

10 mm stone	- 2 x 25 litres
Crusher dust	- 2 x 25 litres
Cement	- 1,5 kg
Anionic Stable Mix 60%	- 17 litres
Water (if required)	- 5 litres (max)

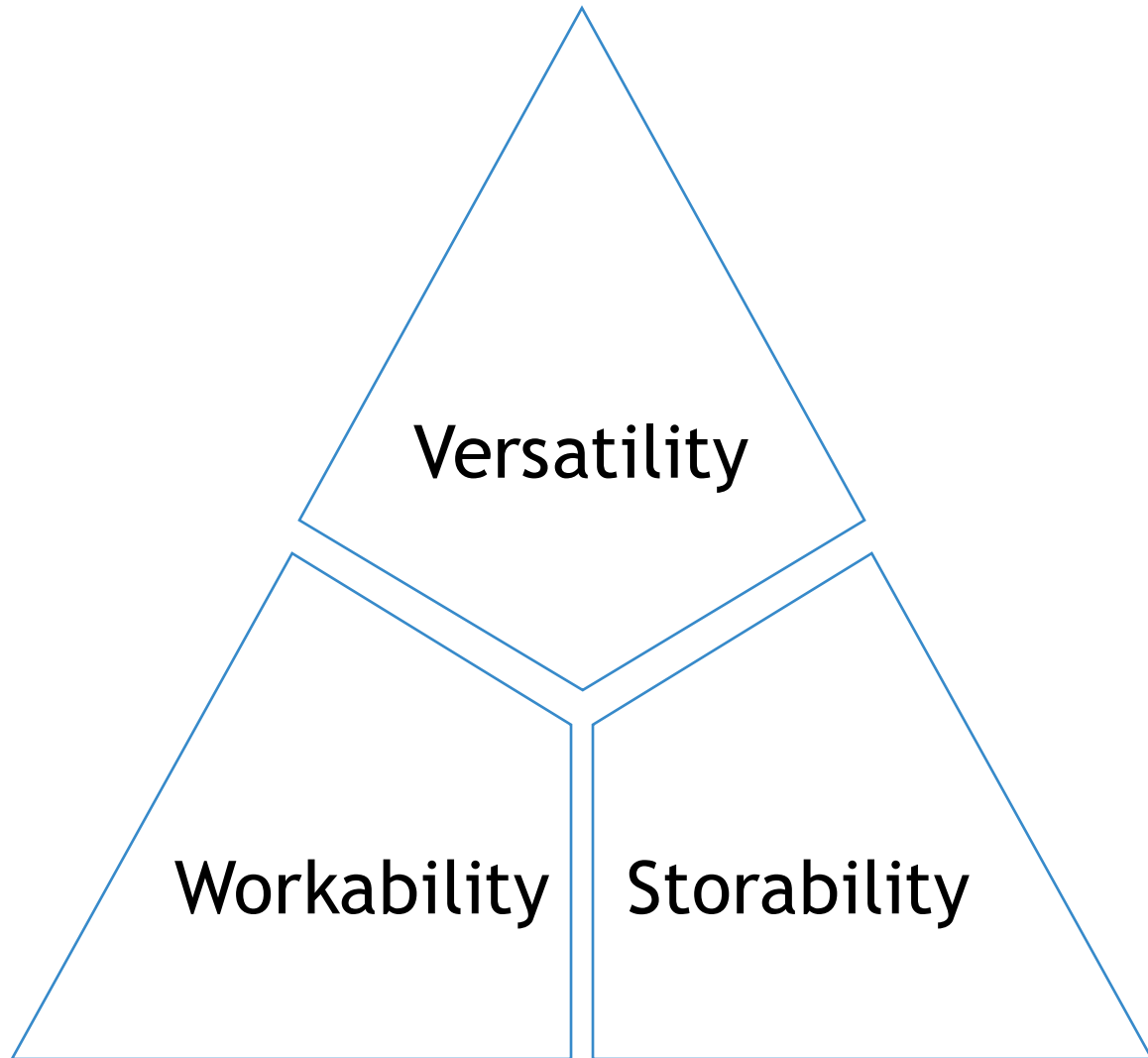
A typical cationic cold mix composition is as follows:

14 mm stone	- 1 x 25 litres
10 mm stone	- 1 x 25 litres
7,1 mm stone	- 2 x 25 litres
Cationic Premix 65%	- 12 - 13 litres

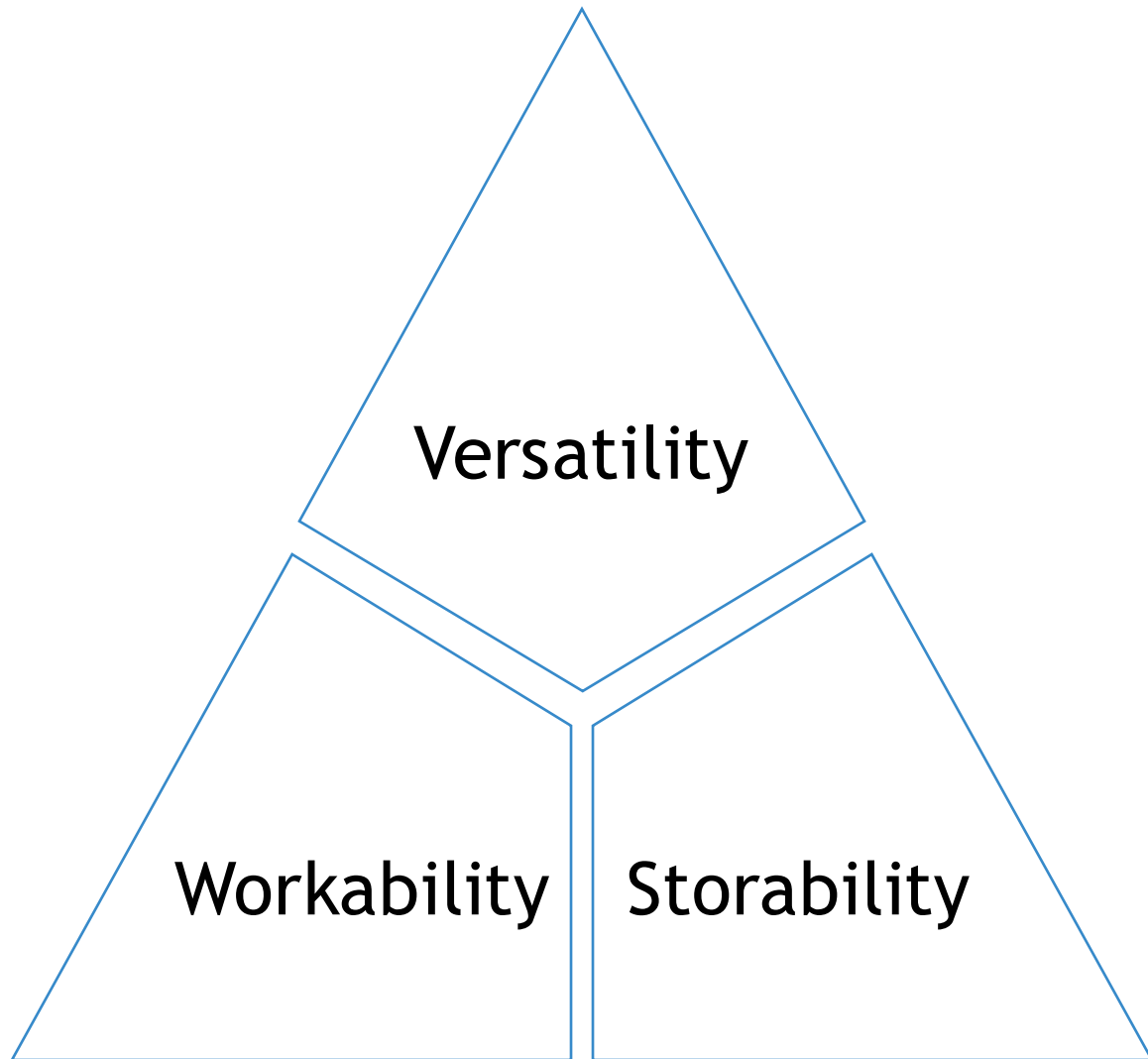
Note: The above mix is suitable for patches deeper than 25 mm. For patches less than 25 mm deep, the mix below is recommended:

10 mm stone	- 1 x 25 litres
7,1 mm stone	- 3 x 25 litres
Cationic Premix Grade 65%	- 12 litres

Requirements to cold-laid asphalt



Requirements to cold-laid asphalt



Swiss army knife of surface materials:

- **Must work in all weather conditions**
- **Permanent repair**
- **Emergency repair**
- **Must flow out of the bag**
- **Self-priming**
- **Shall be cheaper than HMA**
- **Compact well without compaction equipment**
- **...**



Limitations of cold-laid asphalt in SA

- SATAS and Agrément offer certification for cold-laid asphalt
 - Agrément lists 2 products in this category
- The absence of a standard requires the mix to be “fit-for-purpose”
- How can “fit-for-purpose” be assured?
 - Investigate the quality of each raw material



1. Demand transparency

- What raw materials and additives are in the mix?
- Transparent reporting of test results of all ingredients.
- Transparent reporting of sampling and testing regimes.
- Transparent verification of past performance.
- **Red flag** if an additive cannot be named or tested.



2. Assess the product

- Can the product be compacted or is it brittle?
 - Heating it in a drum? **NO**
 - Make it workable with diesel/paraffin? **NO**
- Does the product adhere to the existing surface?
- Does the patch survive the first 3 months?
- Any loss of stone or signs of raveling?
- Assess after heavy rains.

On a personal note,

- My friend cold-laid asphalt has a bad reputation for no good reason.
- The product and its quality control as well as quality application is mostly not fully understood or trained.
- It has its place in the industry and comes with many advantage:
 - Emergency repair lasting 18 plus months
 - Hot mix asphalt is not available (volume, distance, equipment, SHEQ, ...)
 - Labour-intensive applications on potholes, shoulders, trenches
 - Storable product
- Cold-laid asphalt needs attention, control as well as the same dedication as hot mixes.

