



HYDRATED LIME IS A MULTI-
FUNCTIONAL ASPHALT MODIFIER.
ROAD AGENCIES ESTIMATE THAT
ITS BENEFITS LEAD TO **AN**
INCREASED DURABILITY OF 25%.





ADDING HYDRATED LIME TO ASPHALT IMPROVES RESISTANCE TO:

1. MOISTURE & FROST

2. CHEMICAL AGEING

3. RUTTING

4. FATIGUE CRACKING



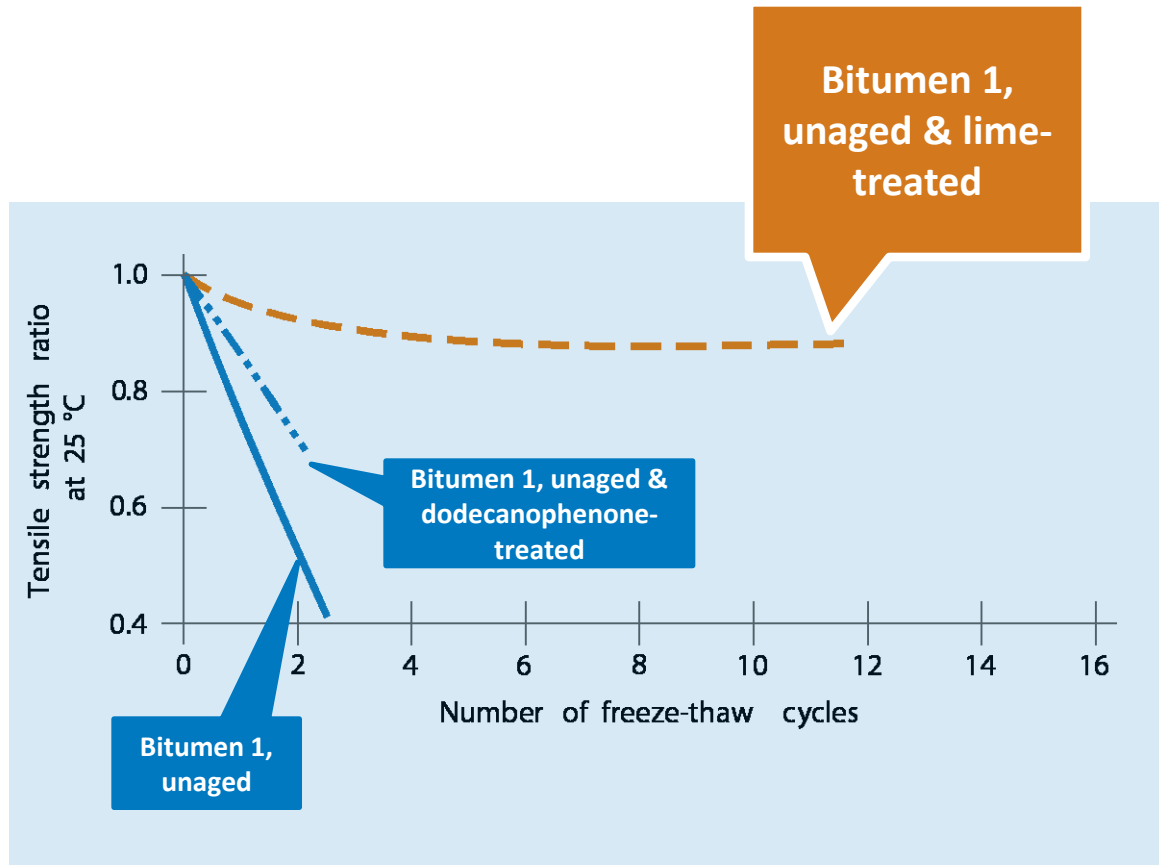


MOISTURE & FROST RESISTANCE

Lime neutralises the carboxylic acids in the asphalt, replacing them with **stronger nitrogen bonds between the aggregate and the bitumen.** These will remain in the presence of water, thus preventing stripping.



Tensile strength ratio remains stable after multiple freeze-thaw cycles





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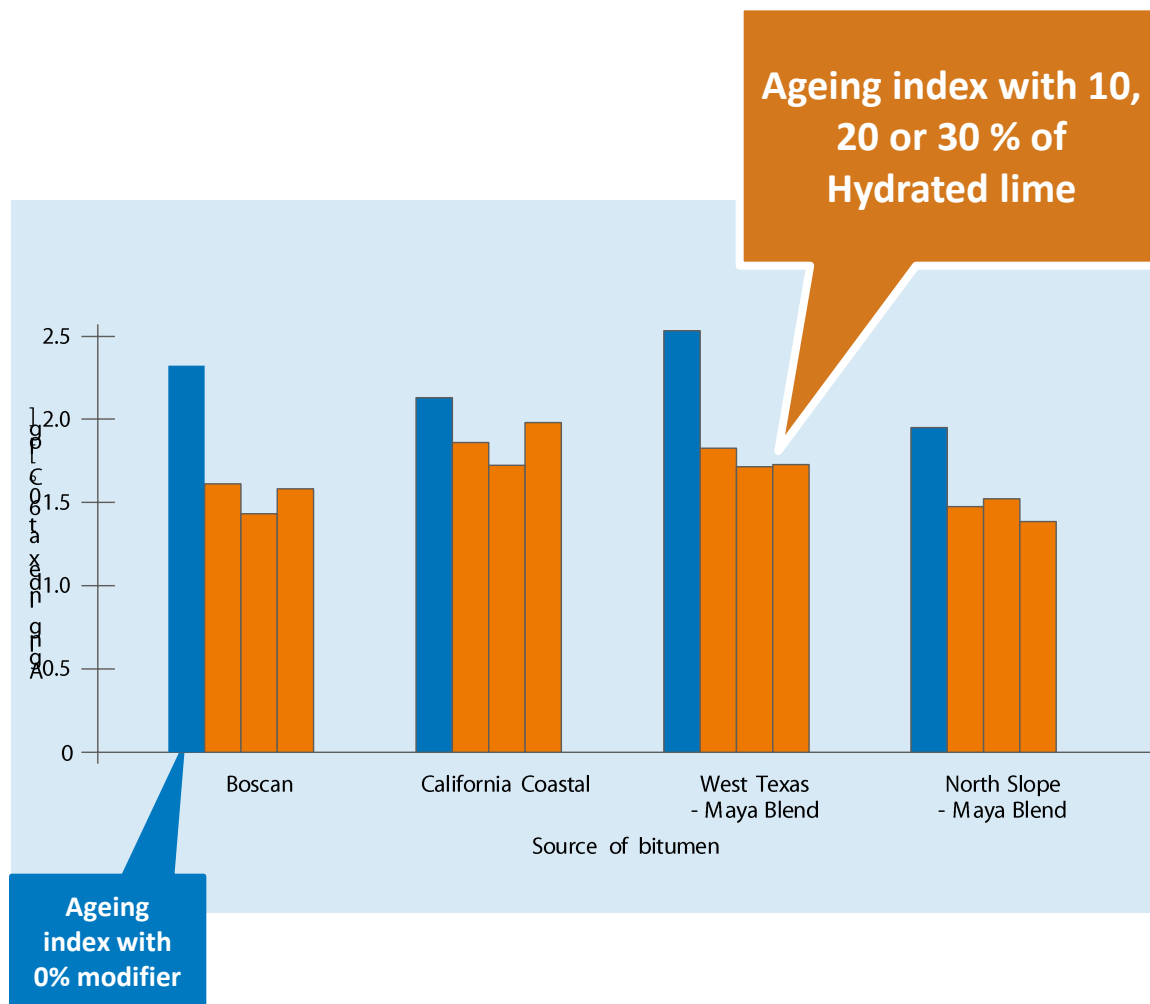


RESISTANCE TO CHEMICAL AGEING

Hydrated lime has an anti-ageing effect on bituminous materials.

Hydrated lime reduces the oxidation of bitumen, notably by reacting with asphaltenes, allowing a slower increase of viscosity.

Various sources of bitumen modified with different weight proportions of Hydrated Lime





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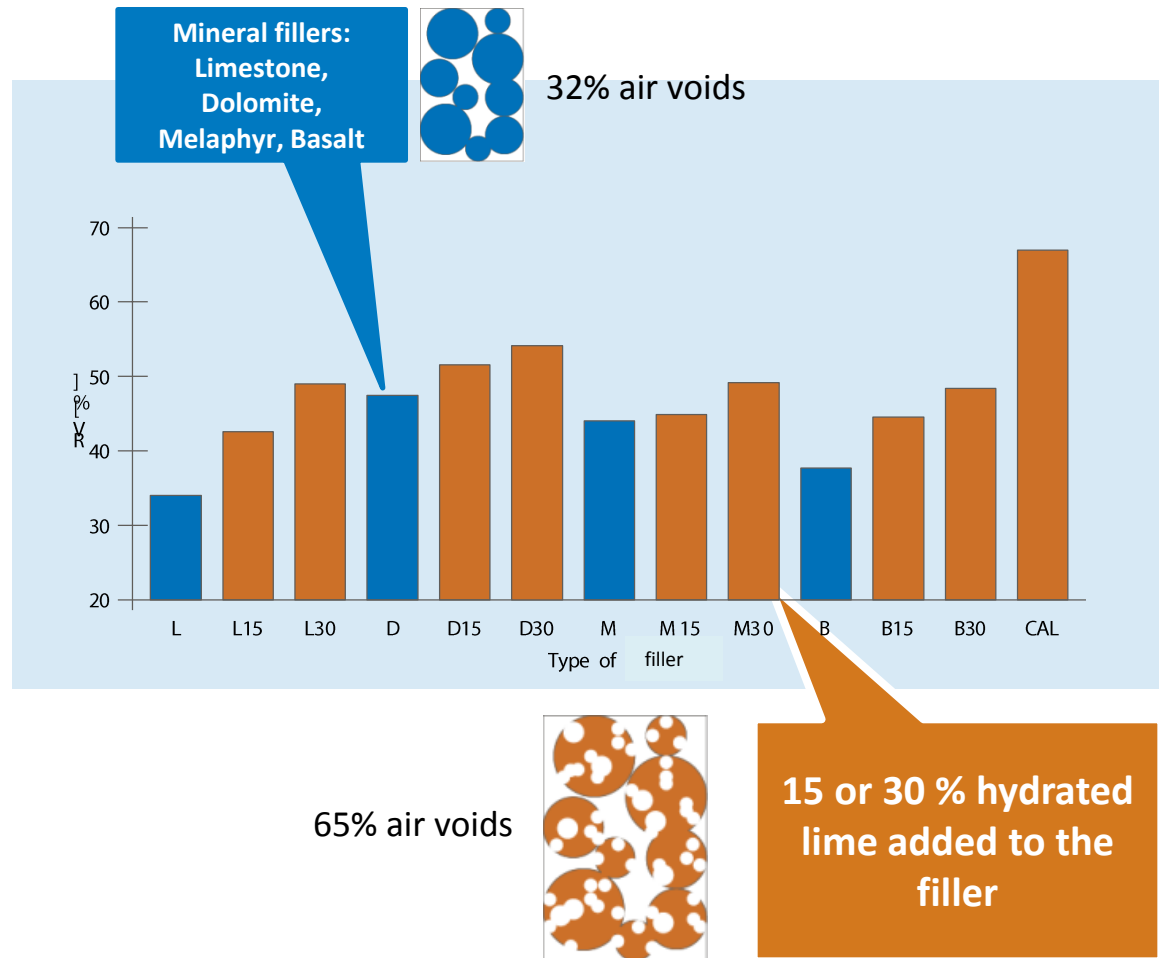


RESISTANCE TO RUTTING

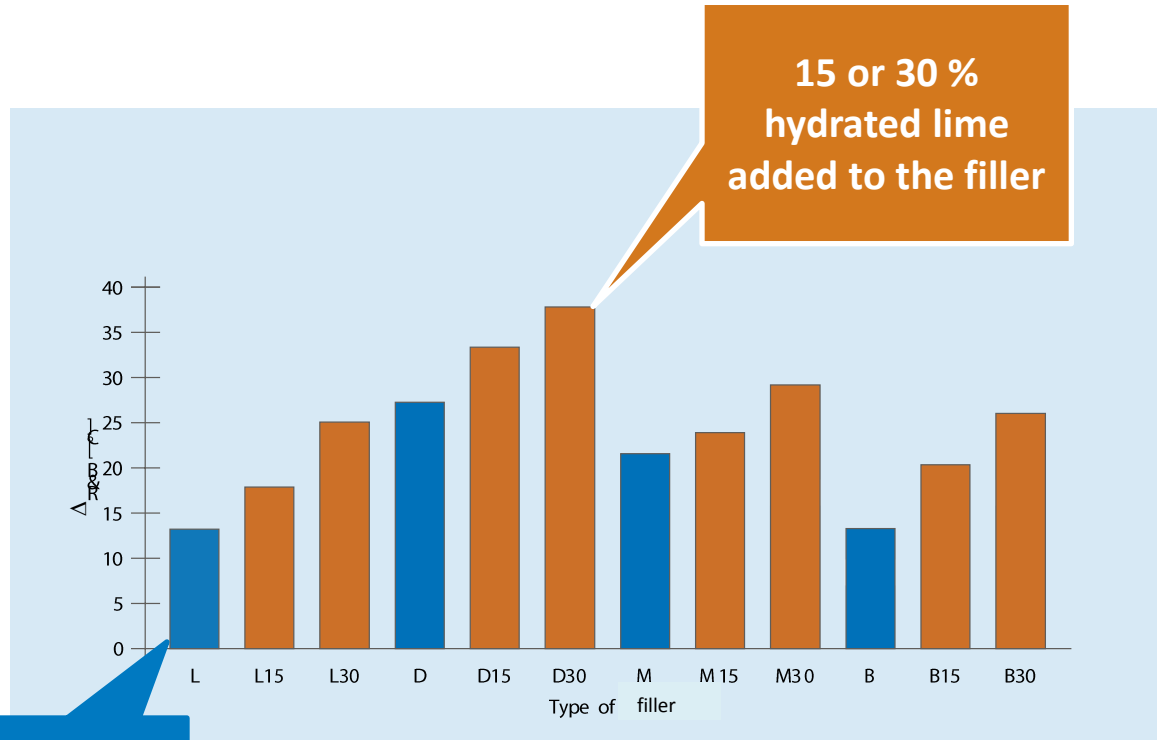
Unlike most mineral fillers, hydrated lime is porous. When it is dispersed throughout the mix, its porosity is filled with bitumen, making the overall asphalt mixture stiffer at high temperature.



Adding hydrated lime to the filler increases ridgen air voids



Adding hydrated lime to the filler increases Δ Ring & Ball



Fillers: Limestone,
Dolomite,
Melaphyr, Basalt





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RESISTANCE TO FATIGUE CRACKING

Cracking can result from traffic-induced fatigue as the pavement weakens and becomes more brittle over time.

Hydrated lime particles act as crack arresters and are able to intercept and deflect micro-cracks as they begin to form.

Adding hydrated lime to asphalt increases the number of cycles to failure

