



Reduced Energy Asphalt

Paving the way to a more sustainable future



Significant carbon reduction potential



Reduction in fumes



Extended paving season



Improved workability

What it is

Reduced Energy Asphalts (REA™) are asphalt mixes that are produced with carbon reduction in mind. This means the mixes can be produced by lowering the production temperature without affecting the performance or make-up of the mix itself.

Standard hot mix asphalt is typically manufactured between 155°C to 165°C, whereas REA™'s can be manufactured between 95°C and 140°C, without compromising field compaction.

REA™ technologies have been used around the world for a number of years, but as environmental drivers such as carbon reduction become a bigger focus, they are becoming a popular and effective way for

industry to provide an avenue for reduced carbon in construction materials.

Fulton Hogan has two different REA™ product categories:

- **CoolPhalt™** - uses LEA® in the manufacturing process to reduce manufacturing temperatures.
- **WarmPhalt™** - uses other additives or foaming techniques to reduce manufacturing temperatures.

These two categories can be applied to most Fulton Hogan asphalt mixes. These categories differ by their manufacturing process, so the best option for a site will be determined by local plant capability and client drivers such as carbon reduction and budget.

Benefits

- Significant reduction in production carbon emissions.
- Reduction in smoking and fuming during paving with minimal to no odour.
- Compaction is able to be completed close to the binder softening point and once finished, the site can be opened to traffic earlier without risk of flushing or deformation.
- Mix can be carted further in road trucks.
- Improved longitudinal joints and surface appearance.
- Less oxidation of the bitumen during the mix production stage extends surfacing life.
- Storage life is similar to standard hot mixed asphalts.
- Compacts as well as hot mix asphalt, plateau density established as per paving quality plan.
- Lower production temperatures reduce thermal stress on production plant and increases life.
- Can be applied to existing mix designs; no mix design changes required.

	CoolPhalt™	WarmPhalt™	Hot Mix
Manufacturer temperature range °C	90 to 110	115 to 140	160 to 170
Carbon savings*	40%**	20%**	None

*Percentage reduction in carbon emitting fuel used by the asphalt plant burner, as compared to standard hot mix asphalt. Fuel savings are estimated, reduction potential will depend on parameters such as design and manufacturing agreed with client.

**Percentages rounded.

The use of warm mix asphalt at Christchurch Airport aligns our pavement maintenance program with the sustainability goal to reduce carbon emissions.

The lower manufacturing temperature means less energy is required to deliver a product that remains workable, fumes less and still achieves the requirements for a long term pavement asset.

- Todd Lester, Facilities Manager Airfield, Christchurch Airport

Contact us

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