

AAPA 2017 NSW INNOVATION AWARD WINNER



PRODUCING A SAFER, CLEANER AND ENVIRONMENTALLY FRIENDLY COLD MIX UTILISING SUSTAINABLE BIO-TECHNOLOGIES

At Fulton Hogan, the daily safety mantra is: What Am I Doing? What Could Go Wrong? How Can I Do It Safer?

In 2015 Fulton Hogan reviewed the cold mix procedures in place since 2010. It was determined that production staff, plant assets and stakeholders were exposed to residual risk and concluded that unless they could find another way of producing cold mix that was safer, cleaner and sustainable, the production of cold mix would cease nationally.

Research began to find a fluxing agent with a flashpoint that reduced or eliminated the fire and explosion risk during production, had a very low toxicity, was not deleterious to bitumen and met the sustainability policies of Fulton Hogan.

Various substitutes were analysed for flashpoint, odour, fuming, toxicity, compatibility with bitumen and sustainability, including biofuels. It was discovered that a Canola-based biofuel met the criteria.

A small rural Victorian-based company producer was found that demonstrated similar sustainability aims to that of Fulton Hogan.

Trials were carried out at the Minto and Wagga plants, revealing hardly any fuming evident as the cold mix

was dropped into the back of the truck and no odour detected. Clients said, "Whatever you have done with the cold mix do not change it – it's so much better than normal cold mix – it stays in the patch and does not push out".

All Fulton Hogan cold mix capable plants around Australia were changed over to Canola-based biofuel by early 2016.

By adopting a Canola-based biofuel to produce cold mix, achievements were:

1. A safer working environment for employees through a higher flashpoint fluxing agent, eliminating risk of fire and explosion
2. A safer working environment for employees and clients by using a low toxicity fluxing agent
3. A more comfortable working environment for employees and clients by using a very low fuming and no odour fluxing agent
4. A cleaner environment by using a biodegradable fluxing agent
5. A better quality cold mix through proven performance in the field and by positive client feedback.