

## ***Moulding Concrete Roofing Tiles***

Part of my steep learning about mould release agents was at a Sydney factory where I saw **concrete roofing tiles** being made at the rate of 110 per minute in a very aggressive process. Aluminium templates circulating on a continuously moving conveyor were sprayed with diesel-based mould release. In less than one second they were laden with mortar, then run under a shaping roller. That roller was faced with expensive tungsten because hard chrome steel formers wore out eight times faster than tungsten. There was very little room for error: without enough release agent on the template, release was not easy enough, so the next day the automated separation of tiles from templates at 110 per minute didn't work. If there was too much release agent, it built up on the templates, filling in fine channels in repeated cycles and so reducing the detail and functionality of subsequent tiles and creating a serious cleaning problem.

The tile plant manager said to me on the day I met him in 1998 *"I've been looking for a water-based release agent for 25 years, and haven't found a good one yet."* In mid-2000 he told me that he was satisfied with a vegetable oil product, but he left the door open for me to return. By September he said that he hated the vegetable oil because it steadily built up residues on his templates which he could not remove except by a water jet at a pressure in excess of 10,000 psi. He tried a **Repel** prototype and found that it had for him *"ideal rheology"*. The release was good, the tiles came out cleanly, and the templates look as good as when he started. When I asked, he said there was nothing about the product which he would like improved.

But some people make out they want the best when, really, they just want to stay the same. Why that plant never used Repel in production is a matter of industrial politics, nothing to do with technical efficacy. One senior manager's pride overran decades of in-house experience.

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