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High Speed 1 is on track with 3M

Despite being one of the most challenging rail projects of recent times, High Speed 1 - the 68 mile link from the Channel Tunnel to London previously known as the Channel Tunnel Rail Link - is on schedule to come into full passenger service on 14 November 2007, thanks to the efforts of Davor Vujatovic, EDF Energy Engineering Manager, High Speed 1, and his colleagues, working closely with main contractor Birse Power Networks (a Balfour Beatty Company) and suppliers including 3M, which has provided many of the joints and terminations used in the project.

"The second section of the rail link – from Fawkham to St Pancras – brought new challenges for us, as in many places, it goes deep under London and therefore travels in tunnels" explains Davor.

"The first requirement was safety: no heat source or open flames could be used to seal the connections. The second was space: confined areas and trunking demanded that equipment had to be of limited dimensions. The third was reliability and consistency of cable connection: which meant the installation of the joint or termination had to be easy and straightforward."

John Hughes, Electrical Engineer, Birse Process Engineering Ltd, says, "The High Speed 1 railway, from the Channel Tunnel to St. Pancras International is the first new railway to be built in the UK for over a century. This meant we were breaking new ground" said John. "Taking 25kV and 11kV supplies through tunnels to meet strict 21st century safety regulations meant specifying joints and terminations which no supplier stocked as standard product. Fortunately, 3M met the challenge with modifications to its Cold Shrink joints and terminations and by incorporating other products from the 3M arsenal of innovative technology. To meet the specialised earthing requirements, the earth connections were taken outside the joint and cross-bonded. To comply with the LSOH standard (Low Smoke, Zero Halogen) – mandatory in tunnel sections – 3M incorporated its specialised 69 Fire Tape into the product spec."

3M Cold Shrink is ideal for situations such as this because it does not require any heat to be used, so there is no need for gas bottles or flames on site, plus it is rapid to install, important in projects where time is of the essence. No additional specialist tools are required either and, the preformed kits make transport to the site much easier. Its design reduces the chance of manual error and it is highly durable, meaning long product life and less risk of future faults.