



Case Study

Lötschberg base tunnel Collano protects electronic equipment

Safely packaged railway control technology

As of 2007, trains will whisk passengers and rail cargo through the new Lötschberg base tunnel at about 200 km/h. The latest technologies for tunnel and rolling stock construction, precision work – and not least of all – Collano specialty adhesives ensure safe travel through the mountain. Signalling and communications are handled by equipment placed in 140 climatized control units situated at intervals along the tunnel. The enclosures protect sensitive electronic circuitry against the harsh tunnel environment where temperatures can exceed 35 °C and relative humidity can rise to more than 80%. The control units must also withstand pressure waves, vibration, and of course fire. The walls of the control unit enclosures are a NiCr steel sandwich construction designed especially for this particular application. FHS E. Frech-Hoch AG, the manufacturer of the sandwich elements, selected Collano A8 7110 to bond them.

Elastic, weather-resistant, flame-retardant

With a mixing and metering system, the adhesive is applied to the pre-cleaned CNS panels and then uniformly distributed. Subsequently, rock wool panels, Duripanel elements, and CNS spacers are inserted and bonded with the second CNS panel. The Collano A8 7110 adhesive developed especially for this application features excellent adhesion, is flame-retardant (fire class 5.3), remains elastic, and is highly resistant to moisture, vibrations and temperature fluctuations.

Collano – your partner for smart bonding.

Collano Adhesives: Innovative specialty adhesives for applications in Construction, Composites, Label/Tape/Packaging, Protective Adhesive Systems, Technical Textiles, Apparel, and Foams. Collano Adhesives belongs to the Collano Group which employs 344 persons around the world and generates sales of CHF 131 million.



The flame-retardant Collano A8 7110 adhesive with its elastic joints is a key element of the enclosure concept.

Technical data in brief

Project:	Containers for railway technology in the rail tunnel (Lötschberg base tunnel)
Year:	2004
Partner:	FHS E. Frech-Hoch AG, Sissach
Application:	Sandwich bonding (CNS/CNS, Rock wool, Duripanel)
Country:	Switzerland
Product:	Collano 2C Silane Hybrid Adhesives
Properties:	Flame-retardant adhesive for elastic structural bonds with good adhesion on metal