CASE STUDY: BIDBID-SUR ROAD TUNNELS, OMAN

Improving safety on the Bidbid-Sur road with dual tunnels

Two new dual road tunnel links are currently under constructed in Oman. These tunnel sections are running under the Bidbid-Sur road and will boost safety for road users by giving protection from potential land slides.

The first dual tunnels (KM24) are being constructed to bypass a critical flood plain and the town of Surur, and the second (KM32) to bypass the Wadi Al Uqq area known for its notorious winding alignment and accident history.

The KM24 tunnels are approx 600m each in length, whilst the KM32 tunnels are approx 1450m each in length.

Both dual tunnels are being excavated using drill and blast techniques. Once excavated, the tunnel is supported with wire mesh and steel ribs, and rock bolts are installed before the final reinforcing shotcrete process begins.

The shotcrete process is using ArcelorMittal's HE+55/35 fibres, the latest generation of shotcrete fibres with ultra-high tensile strength, at a dosage rate of 30 kg per cubic metre. This solution ensures an even
application of fibre reinforced concrete and provides rapid stabilisation of the rock face reducing the time workers are exposed to risk.

Round determinate panels (ASTM C1550) and casted beams (EN 14651) were successfully tested to check the effectiveness of the steel fibre's reinforcement for the prescribed performance levels.

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LET'S TALK TUNNELS