

PROJECT SPOTLIGHT

Ingula Pumped Storage Scheme: Ladysmith: South Africa

Project description

Situated in KZN near Ladysmith the Ingula Pumped Storage Scheme is the 1st of its kind in SA & only the 19th such scheme in the world. A total of approximately 100 000 m³ of sprayed concrete was required to reinforce the nearly 12 km of tunnels, transformer and turbine halls. The original shotcrete design called for 50 kg/m³ Hooked End Steel fibres to obtain the required energy absorption as per EFNARC standards. **Fibsol (Fibre Reinforcing Solutions)** proposed an alternative design using only 7 kg/m³ 40 mm **Macrosol X Synthetic fibres** to satisfy the design requirements. With the recommended dosage energy absorption rates in excess of 900 J were regularly obtained. The Synthetic Fibre Reinforced Sprayed Concrete was applied with robotic shotcreting equipment after the fibres were dosed at the batching plant from a fibre dispensing hopper.

PROJECT DATA

Project: **Ingula**
Location: **Ladysmith: KZN: SA**
Application Type: **Sprayed Concrete**
Concrete Quality: **30 Mpa**
Thickness: **50 to 100 mm**
Project Size: **100 000 m²**
Contractor: **CMI Jv**
Fibre Type: **Macrosol X 40 mm**



Fibsol (Fibre Reinforcing Solutions)

Fibre Technology for Superior Concrete Performance

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