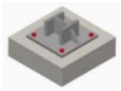
REF-A17

BASEPLATE CONNECTION FOR TUNNEL MEP APPLICATION

PROJECT	Z Morth Tunnel (Sonmarg, India) MEP baseplate application
LOCATION	Jammu & kashmir, India
CLIENT	NHIDCL
DESIGNER	Amberg Engineering
INSTALLATION	2023

Application	**Baseplate fixing for MEP, membrane for tunnel**
Design std.	**EN 1992-4**
Hardware	**Hilti HST 3, HIT V 8.8, RE 500, HY 200R V3, TE 50, TE 800 AVR, TE 1000, SafeSet™**
Software	**PROFIS Engineering (anchor to concrete)**
Services	**Application training at jobsite**



LOAD/ CONDITIONS **Static / Seismic / Fire**

CHALLENGES

- High seismic zone
- Weather challenges
- Requirement of earliest delivery
- Demand of on-site proactive approach
- Safe and reliable systems

HILTI TOTAL SOLUTION

- ✓ Optimised anchor solution for seismic loading
- ✓ Optimised design in PROFIS
- ✓ Efficient supply and service
- ✓ Availability of local resources at site
- ✓ Technology driven installation, SafeSet™ etc.

PROJECT HIGHLIGHT **Application identification and proactive approach**

APPLICATION AND REQUIREMENT

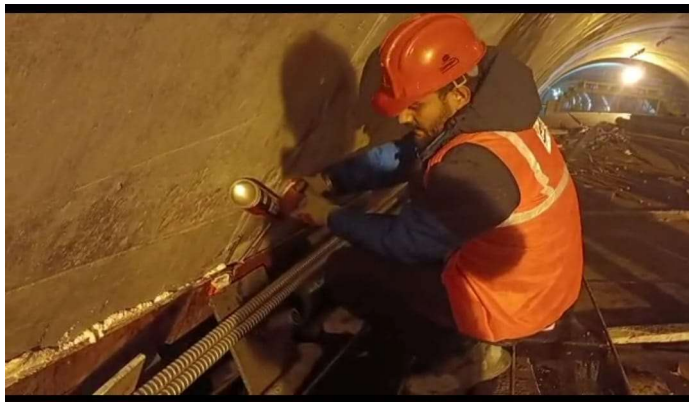
Application Details: Ventilation slab

Several E&M / S&T (Electrical & Mechanical) / (Signaling & Transmission) works in the civil works, tunnels have been executed. Hence, there was requirement of electric tools and accessories (ET&A) for tunneling activity. In addition to that for the E&M and S&T works, there were multiple applications of baseplate connections.

Special approvals for seismic, fire

Considering the criticality of the application as well as the high seismicity zone the need of seismic design and relevance to fire was clearly established with the specifiers and the client. Hilti had extended regular support through close collaboration and also offered approved and suitable post-installed anchors for the relevant application.

APPROACH TOWARDS SOLUTION



Logistics / weather challanges

They have only 6-7 months in a year to execute the project and show the progress. Therefore, the material planning as well as time-to-time testing of lots were done at the site as well as the ware-house location as compliance was the major issue in the project as it was the first of its kind in North-India. The technical, design, compliance and geographical challenges were addressed by the team very swiftly. Looking at the time bound nature of the project, the need of technology solution was proposed by the team and establishing our End-to-End solution portfolio.

Post-installed anchors and other tools

- Post-installed mechanical anchors- **HST3, HKD, HPS**
- Post-installed chemical anchors- **HIT-RE500 V4, HIT-HY 200**)
- Installation was done with **Hilti SIW 6-AT** module and **TE 50/TE100AVR/TE2000AVR**

THE FINAL OUTCOME

Baseplate application and Hilti anchors at jobsite