



# COMPLEX TUNNEL CONSTRUCTION BUILT BY LEADER IN INFRASTRUCTURE

*Compostela, Mexico*

## LEADER IN INFRASTRUCTURE / OPEN-CUT CONSTRUCTION

**Mota-Engil** is recognized and respected in 23 countries as a leader in infrastructure construction. They chose EFCO to engineer a formwork solution for constructing the circular, open-cut construction design of the Túnel Paso de Venados project. Mota-Engil wanted a solution that would allow them to meet the 120-day construction schedule and give them a choice to lease EFCO equipment.

## PARTNERING WITH THE EXPERTS IN FORMWORK

Construction of Mexico's Jala-Vallarta highway began in 2012. While many phases of the project are complete and open to traffic, EFCO is partnering with Mota-Engil Mexico to construct the Túnel Paso de Venados, which is part of another leg of the project. The highway project will reduce the travel time between Guadalajara and Puerto Vallarta to about 3 hours when it is completed.

## CIRCULAR FORMWORK SYSTEM

EFCO engineers proposed that Mota-Engil use the **REDI-RADIUS**® system for the circular formwork to shape the curved walls of the tunnel, along with EFCO **SUPER STUDS**® acting as the tunnel frames. Using these two versatile EFCO products together allows contractors to configure them to any layout effortlessly. ►



*EFCO's REDI-RADIUS formwork system, commonly used to form tanks and circular shafts, is easily adapted to form horizontal arches and tunnels.*





**SUPER STUDS, EFCO's Giant Steel Erector Set, configure easily into a support frame for the REDI-RADIUS forms.**



Continued... ►





## PREFORMED RADIAL FORMWORK DELIVERED

EFCO's REDI-RADIUS® formwork system, commonly used to form tanks and circular shafts, is easily adapted to form horizontal arches and tunnels. If needed, the REDI-RADIUS system could arrive preformed and ready to use directly at your jobsite. SUPER STUDS®, EFCO's Giant Steel Erector Set, configure easily into a support frame for the REDI-RADIUS forms.

## BETTER THAN THE COMPETITIVE RADIAL FORMWORK SYSTEMS

The REDI-RADIUS system is 50% deeper than the competitors, making it stronger and capable of retaining its shape under higher lateral concrete pressures. With a 67 kPa (1,400 psf) concrete pressure rating, EFCO's REDI-RADIUS form outperforms even the closest competitive form.

## CONCRETE TUNNEL STRUCTURE

Once Mota-Engil completes the concrete tunnel structure, it will be backfilled with earth to create a wildlife passage over the top of it. Plus, the 240 m (about 787.4 ft) tunnel will accommodate four lanes of traffic and create a faster, safer route for travelers between Guadalajara and Puerto Vallarta.

## ANOTHER SATISFIED CUSTOMER / WHY TRUST ANYONE ELSE?

The Mota-Engil construction crew maintained a 14-hour placement rate at the height of productivity on the Túnel Paso de Venados. It typically takes 14 hours to place concrete, 14 hours to cure, and three hours to cycle the formwork, meaning the crew places concrete every other day. Satisfied with the efficiency of the REDI-RADIUS formwork system, Mota-Engil Mexico plans to work with EFCO in the future.

## PARTNER IN FORMWORK FOR TUNNEL CONSTRUCTION

Successful implementation of complex tunnel structures requires flexibility. The EFCO experts partner with you right from the beginning of your project. With the worldwide formwork expertise at EFCO, we understand that our flexibility and innovation is the key to success. Therefore, EFCO is a reliable partner in formwork for tunnel construction. Why trust anyone else?

## EFCO EQUIPMENT REDI-RADIUS, SUPER STUD

## MOTA-ENGIL TEAM

Moisés Martínez Caviedes.....Project Manager  
Efraín Valdéz ..... Superintendent

## EFCO FORMWORK SPECIALISTS- MEXICO

Karla Nogués .....Territory Manager  
Rosalío Ramos Guardado....Field Supervisor  
Erick De La Cruz..... Engineer

## EFCO ONLINE

**Fast | Easy | Secure**

Efficiently manage your project from start to finish

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