

TechSpan is a two/three hinge arch system developed by Terre Armee Internationale, France. The structures are formed in reinforced concrete and are delivered to site as segmental pre-cast elements ready for immediate, rapid and predictable erection.

TechSpan® solutions are ideal for:

**Underpasses    Small to medium span bridges    Cut 'n' cover tunnels    Hydraulic culverts**



## **FEATURES:**

- **Project specific Precast Modular Segments**
- **Manufactured in special flexible moulds to suit design and construction needs**
- **Shape and geometry optimized by Finite Element Analysis**
- **Design by FEM program based on Funicular Curve Theory and soil-structure interaction**

## **ADVANTAGES:**

- **Simple and Rapid Construction**
- **Consistent quality through process controls**
- **Minimum traffic disruption during construction**
- **Decades of expertise through worldwide experience**
- **Significant materials and time savings**
- **Increased aesthetic effects**
- **High on Safety Standards**
- **Can be integrated with Reinforced Earth Retaining Walls**

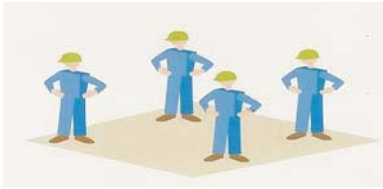
### **Economy, Speed of Erection and Safe Reliable Design Method**

**Construction:** TechSpan's advantages of simple and predictable erection makes it an ideal solutions for structures over traffic. Railways in particular may be bridged without the need for long track possessions.

**Cost Savings:** TechSpan arch bridges are in successful service around the world, and more engineers and contractors are choosing TechSpan solutions for bridging problems. They are benefiting from the Group's expertise and experience, and TechSpan's proven track record as a cost effective solution.

**Professional Services:** Our design engineering staff will guide your scheme through design approval. They will provide construction planning and erection advice. We will ensure on-site assistance at the start of erection to ensure the successful completion of your structure.

CONSTRUCTION PROCEDURE



A team of four workmen can place 15 to 20 linear metres of tunnel per day without the need for false work, scaffolding or specialized personnel.



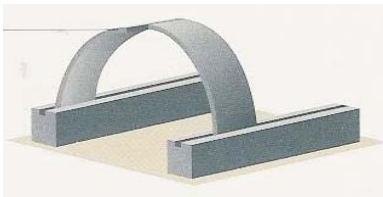
Each segment is lifted by crane and it's foot placed onto the Keyway



After all the segments have been placed a small reinforced concrete beam is cast on the crown to provide a longitudinal tie between units. Lateral joints may be backed by simple geotextile or a waterproof membrane band, depending on application.



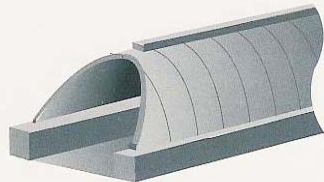
Each foot of the arch may be supported by independent concrete strip foundations or a concrete slab. The foundation size will be dependent upon soil conditions, size of structure and height of backfill above arch. The arch segments are placed in simple keyways approximately 100mm deep cast into the top of the foundations. These locate the arch feet and provide alignment during construction.



The segments are placed staggered by a distance equal to half a unit width and thus one segment leans against half of the opposite segment placed beforehand leaving the other half free as support for the next one.



Headwall and wingwalls



Oblique cut

The arch is now backfilled up to the planned height. Precast concrete headwalls and wing walls (including Reinforced Earth are available.)

Sustainable Technology

**Reinforced Earth India**

A Subsidiary Company of The Soletanche-Freyssinet Group



Terre Armee

