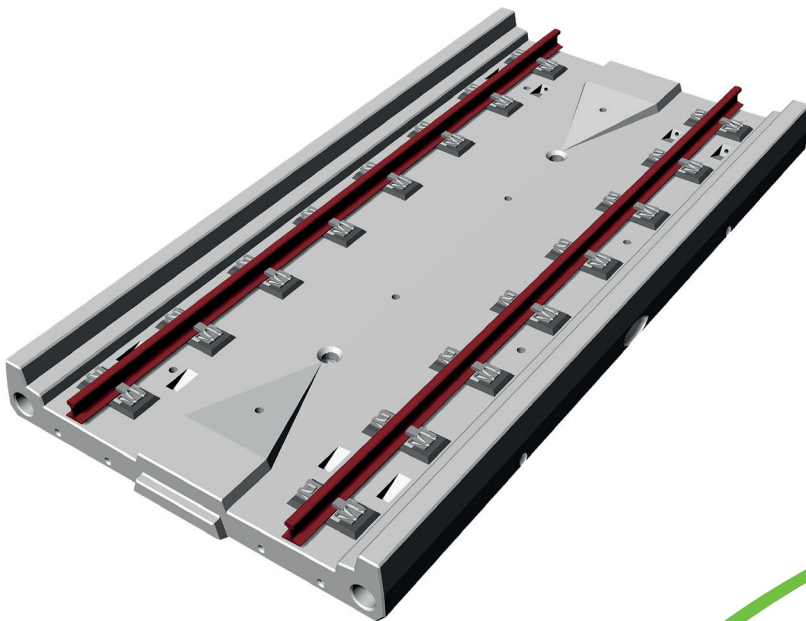




Precast Advanced Track Ltd

next generation slab track technology

PCAT Heavy Rail Slab



Precast Advanced Track

PCAT Rail Slab

Precast Advanced Track Ltd (PCAT) is a British company offering an innovative range of slab track systems for the 21st Century, combining safe and rapid construction methods, with reduced maintenance requirements for lowest whole life cost.

Design Features

The distinctive edge beam profiles of PCAT slabs provide a high modulus, stiff, yet light weight structure. This reduces concrete costs and carbon impact whilst making handling simpler and safer for rapid construction. The integral drainage ducts allow management of surface water, whilst service ducts keep cables secure. The unique PCAT jointing method allows

rapid construction without in situ concrete, and enables slabs to be lifted or replaced easily.

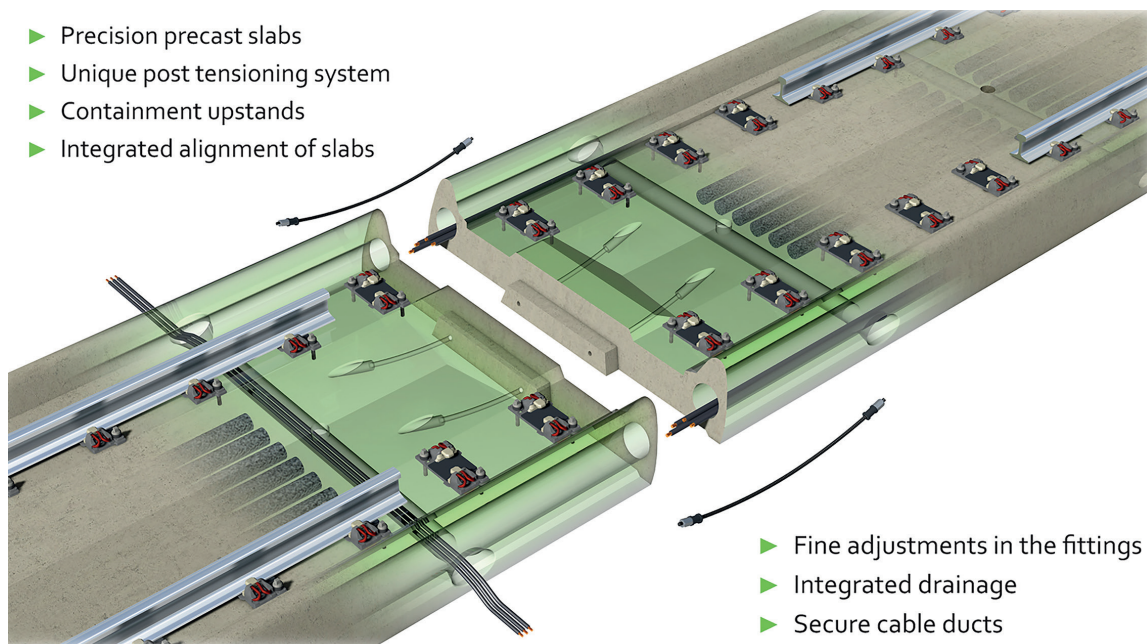
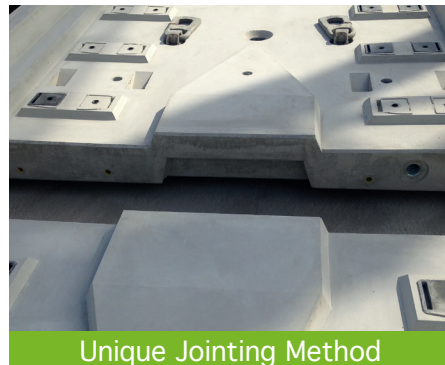
Concrete Technology

PCAT modular slabs are manufactured from high strength concrete reinforced with macro synthetic fibres, eliminating stray current leakage issues and improving durability.

PCAT slabs have a 120 year design life and so reduce whole life cost.

Applications

- ▶ Track Lowering
- ▶ Tunnels and Underground
- ▶ Track Renewal & Replacement
- ▶ Switches & Crossovers
- ▶ Poor Ground Conditions
- ▶ Upgrading Ballasted Track



PCAT Systems Incorporate:

- ▶ Fast but safe mechanised construction
- ▶ High quality off site modular manufacture
- ▶ 120 year design life
- ▶ Low maintenance, maximising track capacity

Rapid Installation

Key to PCAT systems is rapid, safe and accurate installation using mechanised panel lifters. Foundations for the slabs are designed depending on local ground conditions and can include in situ ground improvement techniques. The Hydraulically Bound material (HBM) base provides a long life foundation minimising the risk of post installation settlement.

The PCAT construction and track renewal processes have been engineered to minimise weather dependent activities to provide certainty of programme in short term possession working.



Safe Slab Installation

Smart Technology

PCAT slabs can incorporate Smart components to allow operators to remotely monitor the track condition and position. This is particularly advantageous in areas where poor ground conditions exist.

The asset manager is notified automatically of any minor changes to the PCAT Rail structure which reduces the requirement for visual inspections and improves track safety.



Mechanical Rail Handling

Range of Rail Clips

PCAT Rail slabs incorporate standard rail clip designs to suit the requirements of the railway operator and can facilitate any type of rail fixing.

PCAT Systems

There are PCAT solutions for:

- ▶ Heavy Rail
- ▶ High Speed Rail
- ▶ Underground
- ▶ Tram Train
- ▶ Light Rail
- ▶ Ultra Light Rail



Standard Rail Installation

Services & Security

The construction of PCAT Rail slabs means there are opportunities for ducts and drainage channels to be incorporated into the slabs without detriment to the long term performance of the slab. This means features such as drainage can be incorporated, diverting water to suitable points and avoiding it soaking into the ground below the track. In addition, longitudinal large diameter ducts in the upstands can be used for cabling, reducing the risk of cable theft.

Minimising Maintenance

The PCAT Rail slab track system is designed to remove the cost and disruption of repetitive maintenance of ballasted track, reducing costs and ensuring that lines remain operational for greater periods. In addition, it is the only slab track system that allows subsequent access to the track foundation should it be exceptionally required over the long term. The PCAT jointing system allows for slabs to be quickly disconnected, removed and replaced with minimal disruption.

Acknowledgements

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