CONCRETE ELEMENTS
INVERTED DOUBLE T BEAMS AND SLABS
Inverted double T panels are prestressed concrete elements that have a constant cross section. They are manufactured using high tensile strength prestressed strands, wires or single wire which are embedded within the element.

The production of these elements is achieved using our Slipformer machine that casts continuously on a long production bed without the need of any formwork.
LARGE INVERTED DOUBLE T BEAMS
h 500 mm up to 1000 mm high

The inverted T beams have a particular constant cross section with a thicker lower part and two high vertical ribs. On site they are placed along side each other (to give a ready flat underside) or separated. A lighter floor can be made by using polystyrene in-fill blocks and then a floor covering or by creating voids within the floor using corrugated steel sheets or thin concrete slabs over the elements.

The ribs and lower part of the beams are also reinforced with steel mesh. The side profile is wedge shaped with a rough surface to allow the in-situ concrete to be easily applied. The two ribs give the beam a high torsional rigidity and excellent transversal load distribution. This means that the element is self supporting during the transport and construction phases.

The main applications for these beams are:
• Decking systems for road and railway viaducts and bridges
• Tunnels, anti-landslide and avalanche guards

• Industrial flooring systems
• Commercial flooring with high loading capacities and spans of more than 20 m

They can be used with a prefabricated structure or with an on-site cast structure with joints designed to meet the technical specifications required.

The beams can be manufactured with heights from 500 mm to 1000 mm and with a standard width of 1200 mm or, by using the same machine, in a width of 800 mm simply by changing the internal side formers of the Slipformer.
These concrete elements are produced using special Slipformer machines without any fixed formworks thus making them more cost effective than other traditionally manufactured precast beams.

Extra steel reinforcement tied to the main reinforcement being mounted before casting. This gives extra strength to the ends to enable safe and low cost transport.

For the most demanding applications or when producing high concrete elements, the lower part of the element and the vertical ribs are reinforced with steel mesh and connection bars.

The beams can be manufactured with heights from 500 mm to 1000 mm and with a standard width of 1200 mm or, by using the same machine, in a width of 800 mm simply by changing the internal side formers of the Slipformer.
INVERTED DOUBLE T BEAMS Jumbo™ Series

Benefits

EXCELLENT LOWER SURFACE FINISH
The lower surface of the element is smooth having been produced on a steel casting bed. Generally this surface can be left as seen or can be simply painted. In residential applications only final smoothing is greatly required reducing costs.

QUICK AND EASY INSTALLATION
With only 3-4 workers it is possible to install more than 500-600 m² of floor per day.

CONCRETE ELEMENTS | INVERTED DOUBLE T BEAMS, BENEFITS
COMpletely SELF-supporting
For all loads and spans there is no need for supports during installation. To finish the floor it is only necessary to seal with a concrete topping. The produced elements have high load resistances thanks to a low water/cement ratio of concrete from 0.32 to 0.38. In fact to produce the same profiles using traditional methods would require higher water/cement ratios and need expensive formworks. Even though the low water/cement ratio employed makes the concrete hard to work, NORDIMPIANTI's machines have no difficulty producing particular element shapes with a high level of reliability.

Easy project implementation
Inverted double T beams have a wide range of applications, they can be produced up to 20 m long. They are very common in the traditional building sector, in prefabricated building construction and also in seismic zones. For this specific purpose the floor elements can be connected to each other using steel reinforcement during construction in order to create floor continuity. This gives the floor the correct static characteristics required for seismic zones. Through the choice of the different thicknesses of the lower part of the element, floors can be produced with high fire resistances of up to 180 minutes.

Assured quality
This is achieved using specific equipment for the manufacture of the concrete elements combined with a high end quality control system.

Big cost saving
These concrete elements are produced using special Slipformer machines without any fixed formworks thus making them more cost effective than other traditionally manufactured precast beams. Large production volumes with uniform cross sections even with different cable reinforcement configurations. Once the concrete elements have been produced they can be removed from the casting beds after just 8-10 hours.

Production flexibility
The dimensions of the concrete elements and the prestressed steel wire configurations can be changed according to the element technical specifications required. It is a quick and simple operation to change the necessary parts of the forming insert of the casting machine to vary the height and the thickness of the concrete elements. For the most demanding applications or when producing high concrete elements, the lower part of the element and the vertical ribs are reinforced with steel mesh and connection bars.

High durability and load resistance
The Slipformer technology produces elements with guaranteed fire resistances which are further enhanced by the ability of the machines to work a concrete mix with a low water/cement ratio. The quality of the casting machines ensures a high compaction level and impermeability combined with a high mechanical resistance.
INVERTED DOUBLE T BEAMS AND SLABS

Field Applications h1000

The diverse applications of Inverted Double T Beams and Slabs

THE MAIN APPLICATIONS FOR THESE BEAMS ARE:
- Decking systems for road and railway viaducts and bridges.
- Tunnels, anti-landslide and avalanche guards.
- Industrial flooring systems.
- Commercial flooring with high loading capacities and spans of more than 20 m.

ROAD WIDENING

LARGE COMMERCIAL FLOORING SYSTEM

BRIDGE DECKING SYSTEM

BRIDGE DECKING SYSTEM
The double and triple ribbed slabs have a particular constant cross section with a lower slab and two high vertical ribs. On site they are placed along side each other (to give a ready flat underside) or separated. A lighter floor can be made by using polystyrene in-fill blocks and then a floor covering or by creating voids within the floor using corrugated steel sheets or thin concrete slabs over the elements. They can be used with a prefabricated structure or with an on-site cast structure with joints designed to meet the technical specifications required. The slabs can be manufactured in height from 200 mm to 360 mm and with a standard width of 1200 mm.

**INVERTED DOUBLE RIBBED SLABS**

1200 mm wide
60 mm Height of lower part

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<th>Weight (Kg/m²)</th>
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**INVERTED TRIPLE RIBBED SLABS**

1200 mm wide
40 mm Height of lower part

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The vertical ribs give the beam a high torsional rigidity and excellent transversal load distribution. This means that the element is self supporting during the transport and construction phases.

The lower part of the slab is reinforced with steel mesh.
The diverse applications of Inverted Double T Slabs

Commercial roof coverings

EXCELLENT LOWER SURFACE FINISH
The lower surface of the element is smooth having been produced on a steel casting bed. Generally this surface can be left as seen or can be simply painted. In the residential application only final smoothing is required greatly reducing costs.

EXCELLENT LOWER SURFACE FINISH
• QUICK AND EASY INSTALLATION
• COMPLETELY SELF-SUPPORTING
• EASY PROJECT IMPLEMENTATION
• LARGE COST SAVING
• ASSURED QUALITY
• LARGE COST SAVING
• PRODUCTION FLEXIBILITY
• HIGH DURABILITY AND LOAD RESISTANCE
U panels have a particular constant cross section with a lower slab and two high vertical ribs. On site they are placed alongside each other (to give a ready flat underside) or separated. A lighter floor can be made by using polystyrene in-fill blocks and then a floor covering or by creating voids within the floor using corrugated steel sheets or thin concrete slabs over the elements. The side profile is wedge shaped with a rough surface to allow the in-situ concrete to be easily applied. The two ribs give the beams a high torsional rigidity and excellent transversal load distribution. This means that the elements are self-supporting during the transport and construction phases.
INVERTED DOUBLE T BEAMS AND SLABS
Concrete Elements
ENGLISH VERSION

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