

Execution of steel structures and aluminium structures

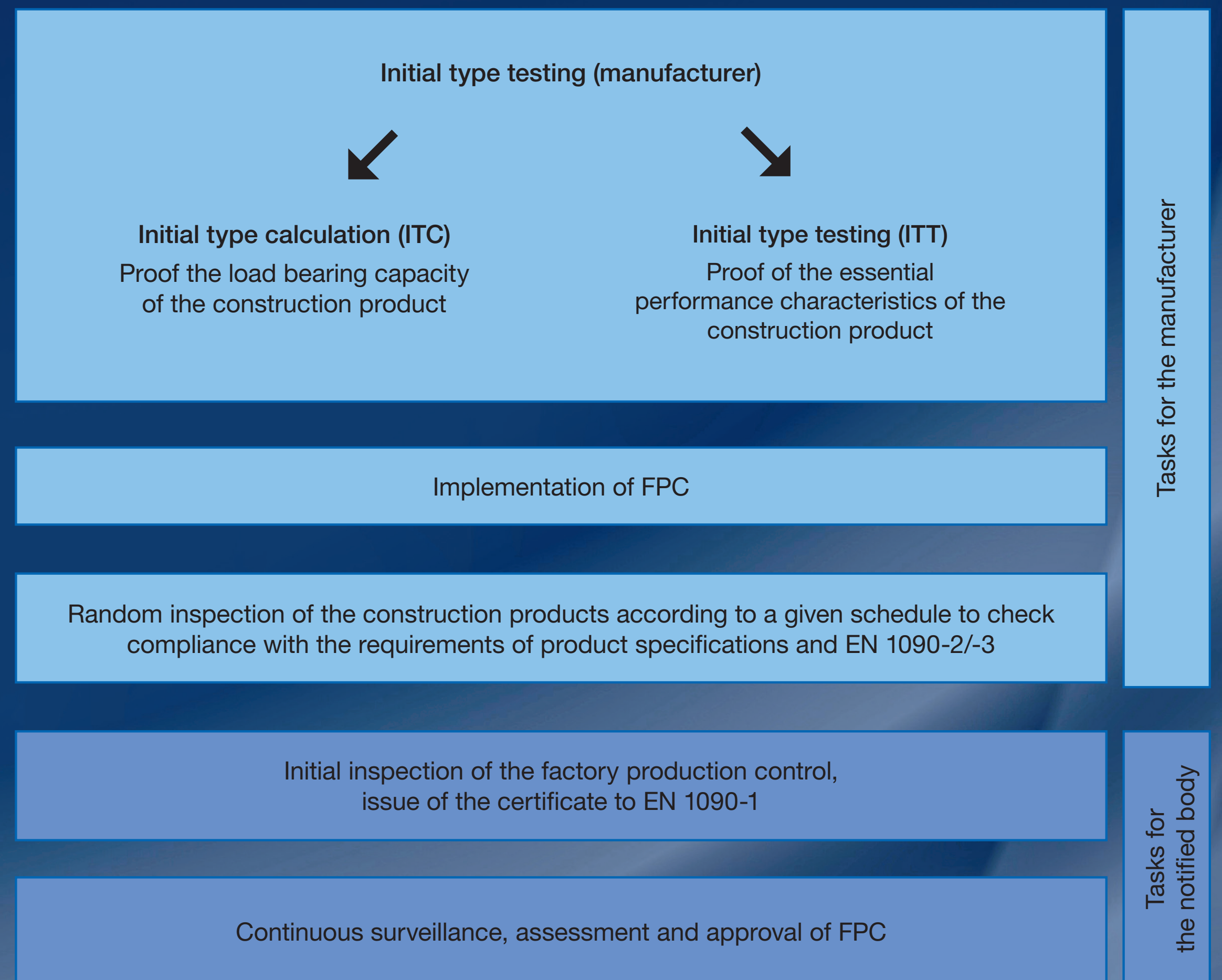
All manufacturers of construction products made of steel or aluminium that fall under the scope of EN 1090ff, must prove that their products show the stated performance characteristics, and that they are suitable for their intended use. This is called the conformity assessment. If the requirements are met and proven, the product receives a CE-marking and may be marketed within the EU. The conduction of the conformity assessment is described in EN 1090-1.

The EN 1090 series of standards replaces national standards in metallic construction field. For example DIN 18800-7 „Stahlbauten – Teil 7: Ausführung und Herstellerqualifikation“ and DIN 4113-1 „Aluminiumkonstruktionen unter vorwiegend ruhender Belastung – Teil 1: Berechnung und bauliche Durchbildung“ in Germany or NF P 22-471 „Construction métallique – Exécution des assemblages soudés“ in France.

Part 1 of EN 1090 contains specifications for the conformity assessment of construction products. It does NOT contain rules for structural design or the production process itself. The design is covered by Eurocode, rules for the execution are found in parts 2 and 3 of EN 1090.

The compliance of a component or kit with the requirements of EN 1090-1 shall be demonstrated by initial type testing and factory production control (FPC).

EN 1090 Execution of steel structures and aluminium structures	
EN 1090-1: Execution of steel structures and aluminium structures. Requirements for conformity assessment of structural components	
Steel	Aluminium
EN 1090-2: Execution of steel structures and aluminium structures. Technical requirements for steel structures	EN 1090-3: Execution of steel structures and aluminium structures. Technical requirements for aluminium structures
Draft EN 1090-4: Execution of steel structures and aluminium structures. Technical requirements for thin-gauge, cold-formed steel elements and structures for roof, ceiling, floor and wall applications	Draft EN 1090-5: Execution of steel structures and aluminium structures. Technical requirements for thin-gauge, cold-formed aluminium elements and structures for roof, ceiling, floor and wall applications



The requirements of the Construction Products Regulations (CPR) lead to the performance characteristics for pre-fabricated components listed in EN 1090-1.



Initial type testing of products

By initial type testing it is proven that the manufacturer has the necessary prerequisites to supply products that comply with this standard.

Certified Factory Production Control

The requirements for a functioning factory production control for load bearing steel and aluminium products as well as kits, are stated in the EN 1090 series of standards. With the certificate for its factory production control according to EN 1090, a company proves the qualification of its employees and the existence of the required technical equipment and most of all the monitoring of the specified performance characteristics of its construction products.

FPC comprises the topics:

- Personnel
- Equipment
- Structural design process
- Constituent products used in manufacture
- Component specification
- Product evaluation and
- Non-conforming products

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