

EN1090-Compatible Weigh Modules Manufacturing Requirements

EN1090, the latest EU standard for structural steel and aluminum, went into effect July 2014. It addresses the design and manufacturing of load-bearing components and structures made of steel or aluminium. All load-bearing components in structures made of steel or aluminum sold in the EU must comply with the requirements delineated in the standard and be CE marked. METTLER TOLEDO weigh modules can be ordered as EN1090-compatible items to fulfill these structural safety regulations.

EN1090 Introduction

Structural steel and aluminium falls under the scope of the EU standard which harmonizes manufacturing requirements of load-bearing components and structures sold in the European market. The standard is valid as of July 2014. According to CEN/CENELEC Internal Regulations, national standards organizations in all EU countries, Switzerland, the UK and Norway are bound to implement it.

The standard has three parts:

- EN 1090-1: Requirements for conformity assessment for structural components,
- EN 1090-2: Technical requirements for the execution of steel structures, and
- EN 1090-3: Technical requirements for the execution of aluminium structures.

Weigh modules are made of steel and fall under part 2.

The standard defines structural components as components that are to be used as load-bearing parts of works designed to provide mechanical resistance, stability and/or fire resistance including aspects of durability and serviceability. Structural components can be used as delivered or incorporated into construction.

Applications where weigh modules are load-bearing components include storage or process tanks. Applications when this is not the case include platform scales. METTLER TOLEDO offers suitable weigh modules for both application areas.

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Execution Classes

The EN 1090 standard defines four execution classes, each with their own requirements. Execution classes EXC1 to EXC4 are determined by the consequence of component failure and component complexity; higher numbers denote higher complexity and stricter compliance requirements.

Execution class is determined by the manufacturer and certified by an independent body. METTLER TOLEDO weigh modules as supporting structures with steel strength up to class S700 are in the EXC2 category. This category implies the following requirements for compliant steel products:

- a quality documentation system shall be in place,
- products shall be identified and traceable throughout the production process,
- thermal cutting of steel parts shall comply with EN ISO 9013 requirements,
- cut-outs shall have a minimal radius of 5 millimeters,
- welding shall be done according to EN ISO 3834-3, and
- welders shall be qualified by EN 287-1 and operators by EN 1418.

Compatible Weigh Modules

METTLER TOLEDO Changzhou, the production organization of all METTLER TOLEDO modern MultiMount, PinMount and PowerMount weigh modules, fulfills the requirements of the EN 1090 standard and can deliver the following with certificate:

- SWB505 MultiMount™**
- SWB605 PowerMount™**
- SWC515 PinMount™**
- SWC615 PowerMount™**

For applications where the weigh module is not a structural component, these parts are available without the EN 1090 marking.

Factory Production Control

When companies that produce and process metal and metallic parts want to sell their products in the European Union, they must certify their Factory Production Control (FPC) system is in compliance with the harmonized specifications of EN 1090-1.

METTLER TOLEDO carries out all procedures, processes, and inspections within the framework of a qualified, documented system. This system includes the complete production chain starting from product design requirements to final delivery as required in seven main categories that must be investigated and aligned with the EN 1090 requirements. These categories are:

- personnel,
- equipment,
- the structural component design process,
- constituent products used in manufacturing,
- component specifications,
- product evaluation including test plans, and
- procedures for handling non-conforming products.

Implementing the requirements in all the above-listed categories ensures the conformity of present and future products. Quality inspections are conducted by sufficiently trained and competent personnel throughout production.



Certificate example

CERTIFIED
DIN
 EN 1090



Weigh-Module Features

| | w/o EN1090 | w/EN1090 |
|--------------------------------------|------------|----------|
| Guaranteed overload protection | • | • |
| SafeLock™ for easy installation | • | • |
| Self-aligning suspension | • | • |
| Lift-off and 360° tipping protection | • | • |
| FM/ATEX hazardous certification | • | • |
| EXC2 execution class category | | • |
| EN 9013 thermal cutting | | • |
| EN 3834-3 welding processes | | • |
| EN 287-1 qualified welders | | • |

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