

EN 10025-1 PRODUCT CERTIFICATION

Hot Rolled Products of Structural Steels

Technical Handbook for Structural Steel Manufacturers

*EN 10025-1 • Technical Delivery Conditions • Steel Grades •
Chemical Composition • Mechanical Properties • Testing •
Inspection • Traceability • EN 10204 • MTC • Product Certification*



For Manufacturers, Steel Producers, Suppliers & Structural Steel Supply Chains
First Welding Certification Pvt Ltd (PRVÁ ZVÁRAČSKÁ, a. s.)

Edition 01 | 2026

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What Is EN 10025-1?

EN 10025-1 is the first part of the EN 10025 European standard series and specifies general technical delivery conditions for hot-rolled structural steel products.

It applies to the general requirements associated with structural steel products covered by the EN 10025 series. The specific technical requirements for individual structural steel categories and grades are established in the relevant Parts 2–6.

What Does EN 10025-1 Address?



Typical Applications

EN 10025 structural steels are used in applications such as:

- Buildings
- Structural frames
- Bridges
- Industrial facilities
- Infrastructure
- Platforms
- Towers
- Engineering structures
- Machinery structures
- Fabricated steel structures

The standard covers hot-rolled flat and long products within its scope and excludes structural hollow sections and tubes.

KEY POINT

EN 10025-1 provides the general delivery framework.

The applicable EN 10025 product part establishes the specific requirements for the relevant steel type and grade.

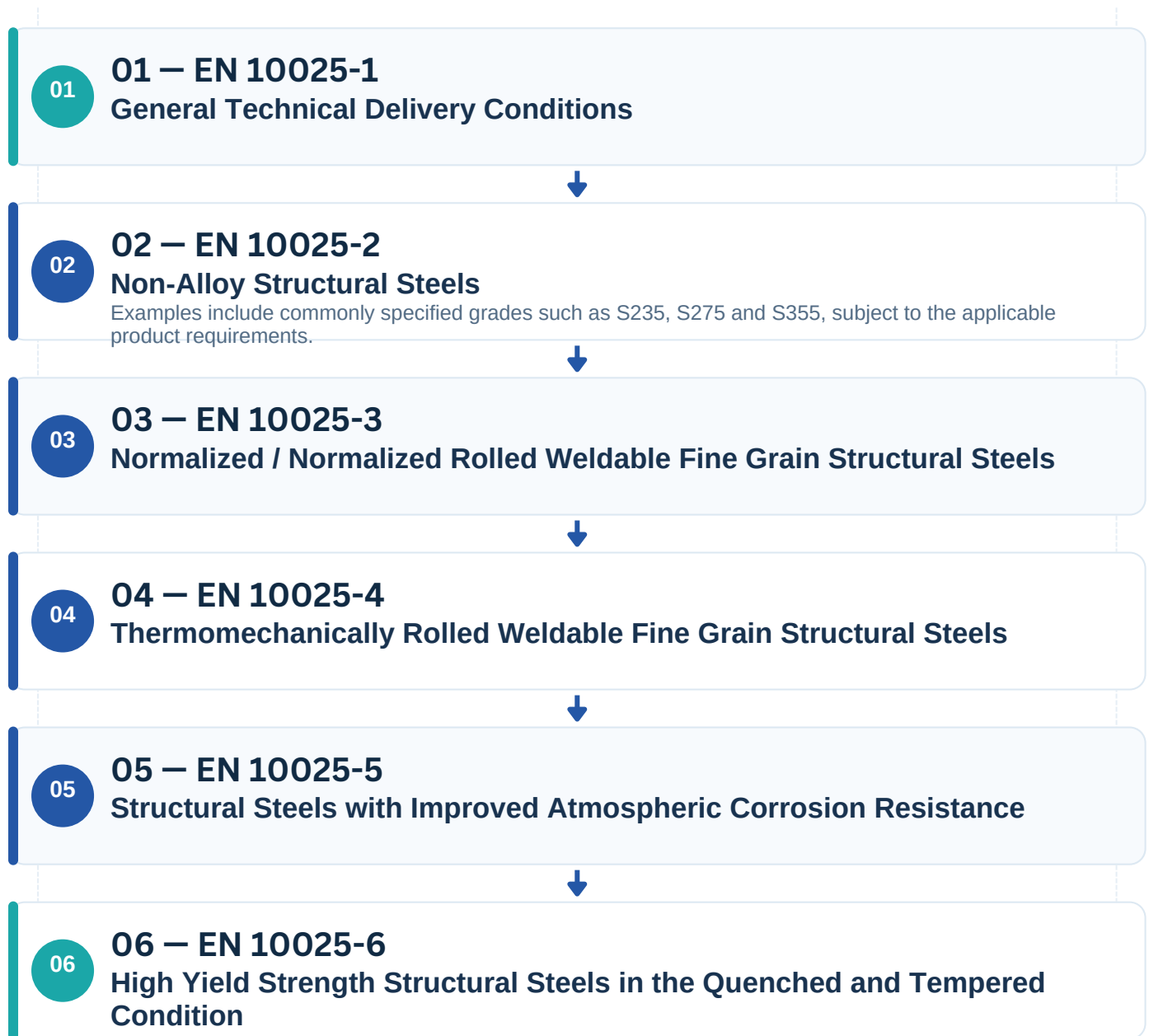
Understanding the EN 10025 Series

A common mistake is to treat EN 10025-1 as the complete steel-grade specification.

It is not.

EN 10025-1 establishes general technical delivery conditions, while Parts 2–6 provide the specific requirements for different structural steel categories.

THE SIX-PART STANDARDS SERIES



Correct Specification Logic

01 EN 10025



02 Applicable Part



03 Steel Grade



04 Quality



05 Delivery Condition



06 Thickness / Product Form



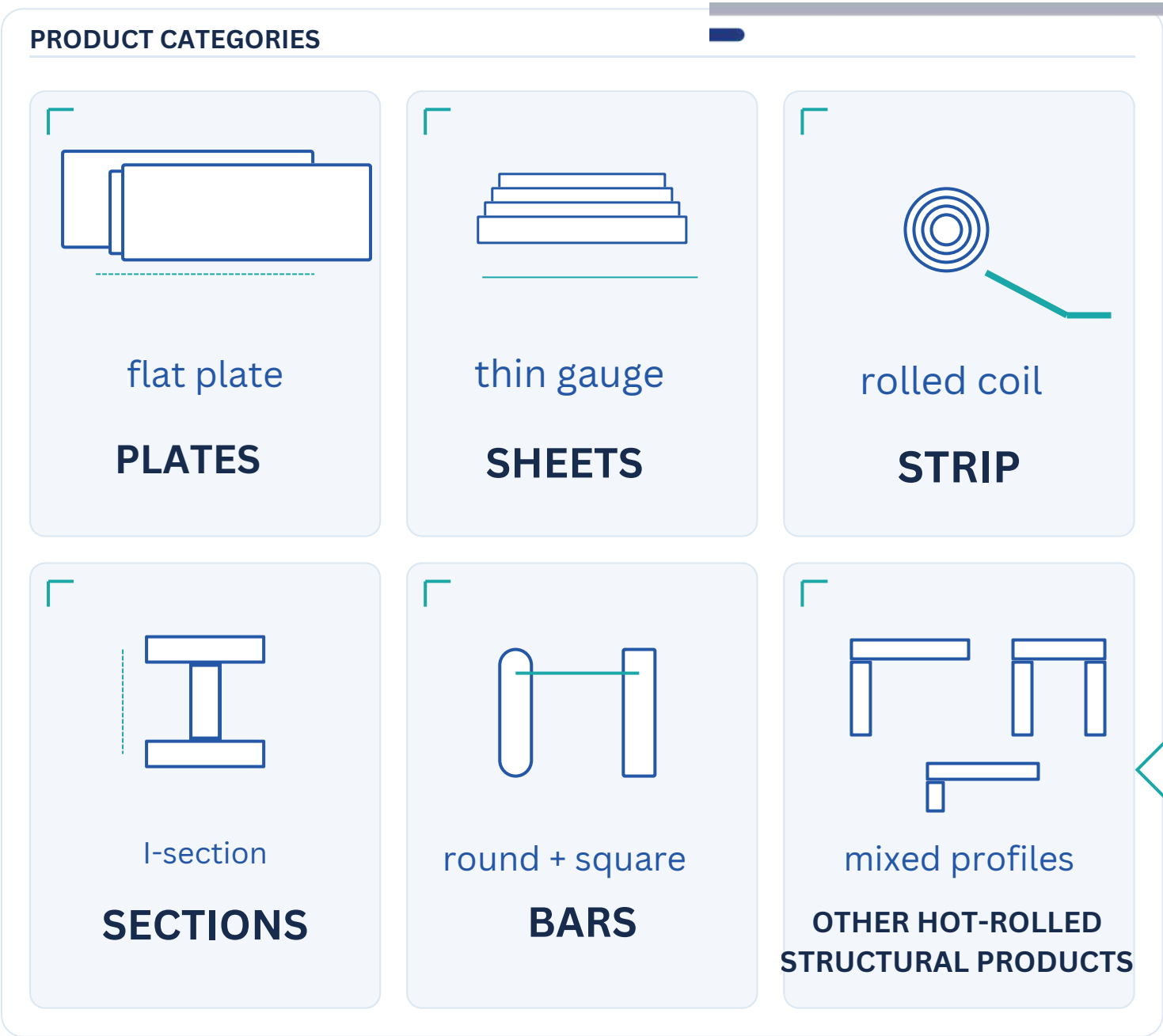
07 Required Properties



08 Inspection & Documentation

EN 10025-1 Products & Scope

EN 10025-1 applies to hot-rolled structural steel products within its defined product scope, including flat and long products. Structural hollow sections and tubes are excluded from this Part 1 scope.

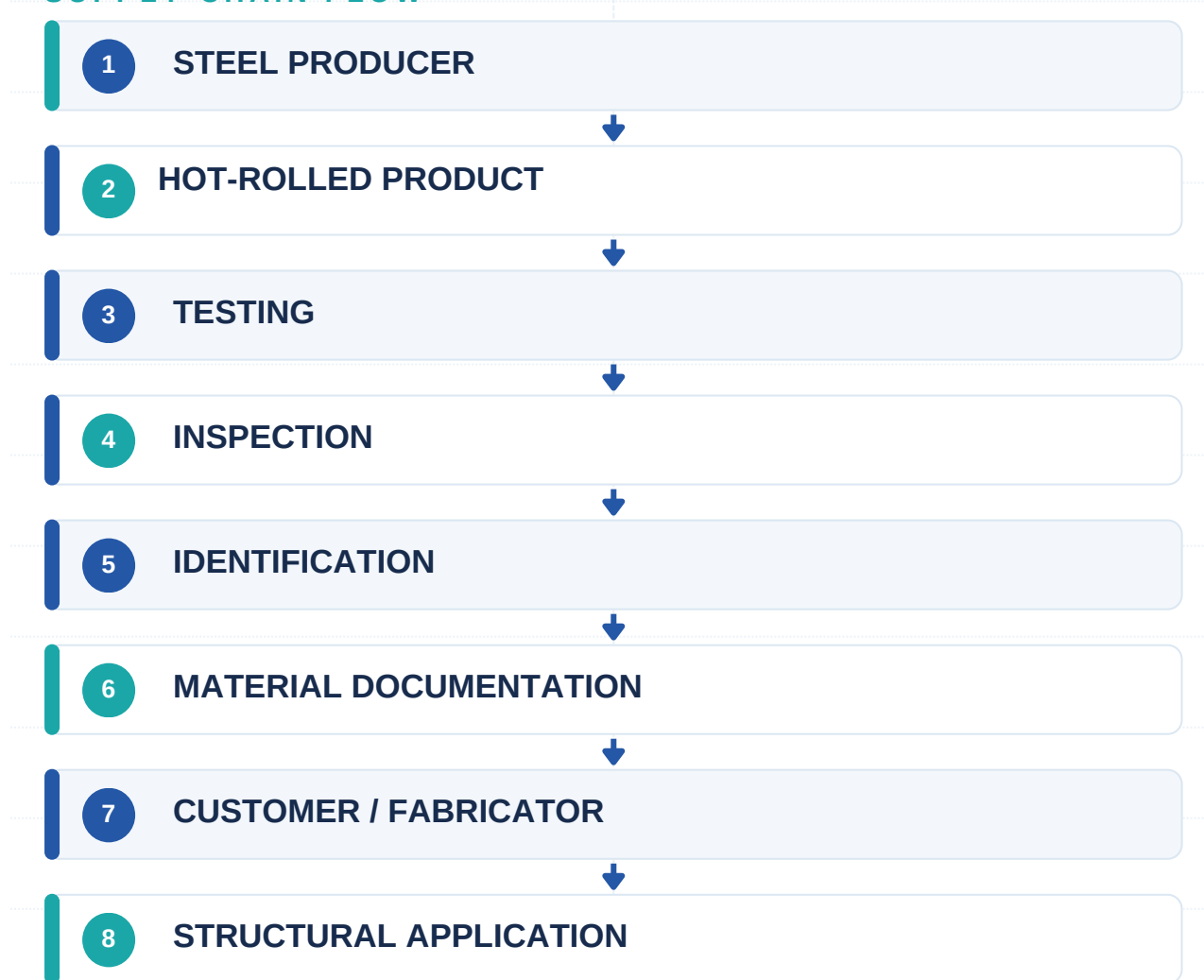


Product Selection Should Consider

- ☐ Product form
- ☐ Applicable EN 10025 part
- ☐ Steel grade
- ☐ Steel quality
- ☐ Thickness
- ☐ Dimensions
- ☐ Delivery condition
- ☐ Required mechanical properties
- ☐ Chemical composition
- ☐ Impact requirements where applicable
- ☐ Surface requirements
- ☐ Inspection requirements
- ☐ Documentation requirements

Where EN 10025-1 Fits in the Supply Chain

SUPPLY-CHAIN FLOW



EN 10025 Steel Grades, Designation & Material Selection

The EN 10025 series contains several families of structural steels. A material designation should not be interpreted from the grade name alone.

EXAMPLE DESIGNATION

S355

Break the designation into the relevant elements specified by the applicable product standard.

GRADE → DESIGNATION
→ STANDARD

Important Selection Factors

Steel Grade



Quality



Delivery Condition



Product Form



Thickness



Mechanical Properties



Chemical Composition



Impact Toughness Where Applicable

Common Structural Steel Grades

Examples frequently encountered in structural applications include:

S235

Structural steel grade family

S275

Structural steel grade family

S355

Higher-strength structural steel grade family

S420 / S460

Higher-strength structural steel families covered by applicable EN 10025 parts

Important: The exact grade, quality, thickness range, delivery condition and applicable requirements must always be checked against the relevant EN 10025 product part and current specification.

Do Not Specify Steel Using the Grade Alone

A complete material requirement may need to establish:

Grade + Quality + Product Form + Thickness + Delivery Condition + Applicable Standard + Inspection Document

EN 10025 Chemical Composition & Mechanical Properties

The applicable EN 10025 product standard establishes requirements for the chemical and mechanical characteristics of the relevant steel.

Chemical Composition

Depending on the applicable product standard and grade, chemical requirements can include elements such as:

- Carbon
- Manganese
- Silicon
- Phosphorus
- Sulfur
- Nitrogen
- Alloying elements where applicable



Mechanical Properties

Typical mechanical characteristics include:

- Yield Strength
- Resistance to permanent deformation.
- Tensile Strength
- Maximum tensile stress reached during tensile testing.
- Elongation
- Indication of ductility.
- Impact Toughness
- Energy absorbed during impact testing where applicable

Important

Mechanical-property requirements can depend on:

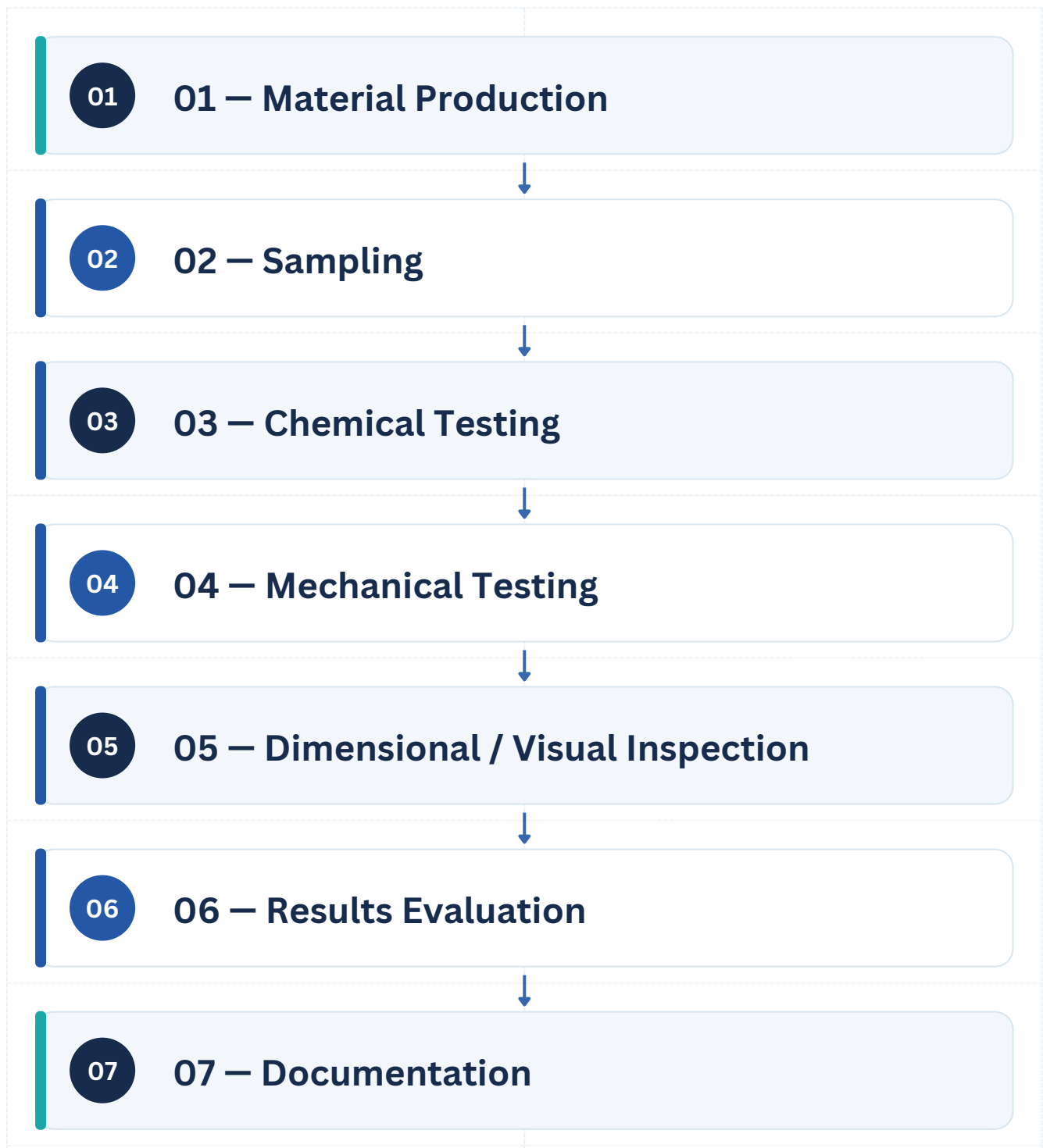
- Steel grade
- Product type
- Thickness
- Quality
- Applicable EN 10025 part
- Test conditions

Do not use a single generic value for every S235, S275 or S355 product.



EN 10025 Testing & Inspection Requirements

Testing and inspection provide objective evidence that the product meets the applicable requirements.



Typical Verification Areas

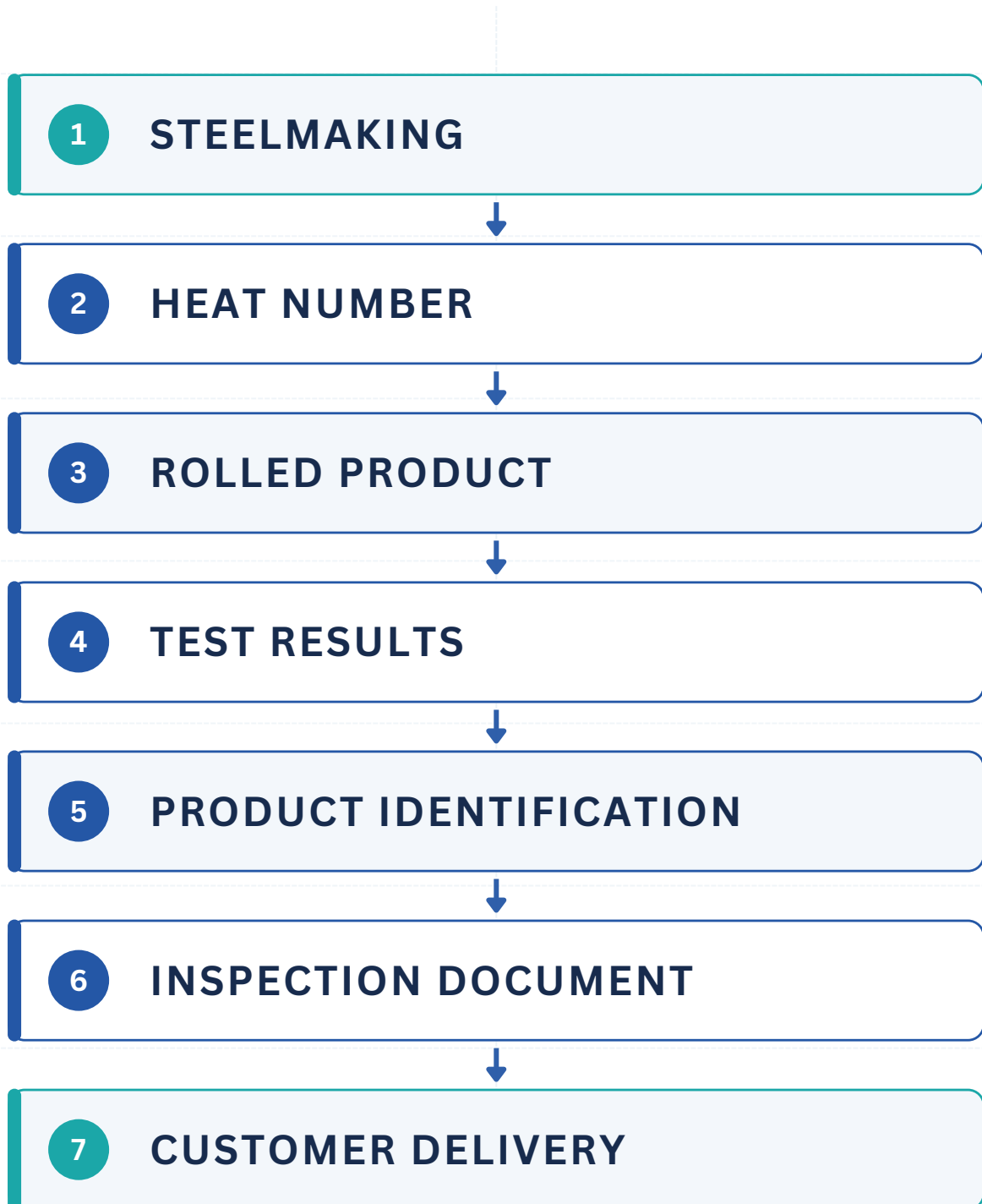
Inspection Area	What May Be Verified
Chemical composition	Specified chemical elements
Tensile testing	Strength and elongation
Yield strength	Specified yield requirement
Impact testing	Toughness where applicable
Dimensions	Product dimensions and tolerances
Surface	Applicable surface requirements
Identification	Grade, heat/batch and product marking
Traceability	Link between product and production records
Documentation	Inspection and test evidence

The applicable testing regime depends on the relevant product standard, grade, product form, dimensions and specified requirements

EN 10025-1, EN 10204 & Mill Test Certificates

Material documentation is a critical part of structural steel supply chains.

Your records should establish a clear relationship between:



Mill Test Certificate (MTC)

An MTC / inspection document may provide information such as:

- Manufacturer
- Product identification
- Steel grade
- Heat number
- Dimensions
- Chemical analysis
- Mechanical test results
- Impact test results where applicable
- Delivery condition
- Inspection results
- Applicable inspection document

The applicable inspection document should be established according to the relevant product standard, order requirements and EN 10204 provisions where applicable. First Welding Certification Pvt Ltd 's EN 10025-1 page specifically identifies MTC verification in accordance with EN 10204 where applicable.

Traceability Check

Can you connect:

Heat Number → Product → Test Results → MTC → Delivered Material?

If not, investigate the traceability gap before product release.

EN 10025-1 Product Certification Process

The exact conformity assessment route depends on the applicable product, intended use, regulatory framework and certification scope.

CERTIFICATION ROUTE / 10 STAGES



What Should Be Clearly Defined?

- ☐ Product scope
- ☐ Product forms
- ☐ Applicable EN 10025 parts
- ☐ Steel grades
- ☐ Manufacturing process
- ☐ Testing arrangements
- ☐ Inspection procedures
- ☐ Material traceability
- ☐ Product identification
- ☐ Documentation
- ☐ Quality-control records

[**First Welding Certification Pvt Ltd's EN 10025-1**](#)

[**certification page**](#) describes its process through initial inquiry, commercial review, order confirmation, registration, audit stages, reporting/review and certification release.

EN 10025-1 Certification Requirements Checklist

PRODUCT

- ☐ Product scope defined
- ☐ Product forms identified
- ☐ Applicable EN 10025 part identified
- ☐ Steel grades identified
- ☐ Quality designation identified
- ☐ Delivery condition identified

MANUFACTURING

- ☐ Manufacturing process documented
 - ☐ Production controls established
 - ☐ Process parameters controlled
 - ☐ Product identification maintained
 - ☐ Nonconforming product process established

TESTING

- ☐ Chemical analysis arrangements established
- ☐ Mechanical testing arrangements established
- ☐ Impact testing identified where applicable
- ☐ Dimensional inspection established
- ☐ Surface inspection established
- ☐ Test results controlled

TRACEABILITY

- ☐ Heat number maintained
- ☐ Product identification maintained
- ☐ Test results linked to product
- ☐ Inspection documents linked
- ☐ Delivery records maintained

DOCUMENTATION

- ☐ Product specifications
- ☐ Inspection procedures
- ☐ Test reports
- ☐ Material certificates
- ☐ EN 10204 inspection documents where applicable
- ☐ Quality records
- ☐ Traceability records
- ☐ Technical documentation

Common EN 10025-1 Mistakes

01. Treating EN 10025-1 as the complete grade specification.
02. Selecting S235, S275 or S355 without checking the applicable product part and quality.
03. Ignoring thickness when evaluating mechanical requirements.
04. Using an incomplete or incorrect material designation.
05. Breaking heat-number traceability between production and delivery.
06. Accepting an MTC without checking the product against the purchase specification.
07. Failing to verify chemical and mechanical test results.
08. Assuming CE marking requirements without checking the applicable regulatory and conformity-assessment route.
09. Using outdated technical requirements without verifying the applicable edition.
10. Maintaining certificates without connecting them to the actual delivered product.

Frequently Asked Questions

1. Is EN 10025-1?

It specifies general technical delivery conditions for hot-rolled structural steel products covered by the EN 10025 series.

2. Is EN 10025-1 a steel grade standard?

No. The specific structural steel requirements are provided in Parts 2–6.

3. What products are covered?

Hot-rolled structural steel flat and long products within the defined scope.

Does EN 10025-1 cover S355?

S355 grades are specified in relevant parts of the EN 10025 series, while EN 10025-1 provides general delivery conditions applicable across the series.

What is an MTC?

A Mill Test Certificate is commonly used to refer to a material inspection document containing product and test information.

What is EN 10204?

EN 10204 specifies types of inspection documents for metallic products; the applicable document type depends on the order and relevant requirements.

Is EN 10025-1 related to CE marking?

It can be relevant to CE marking for applicable structural steel products under the applicable European construction-product framework. The specific route must be established for the product and intended use.

Recommended Reading

EN 10025-1: Technical Delivery Conditions for Hot Rolled Structural Steel Products – A Complete Guide

[**\[Read the Article →\]**](#)

FIRST WELDING CERTIFICATION PVT LTD (PRVÁ ZVÁRAČSKÁ, a. s.) provide certification and conformity-assessment activities across applicable European and international requirements, including EN 10025-1 Product Certification.

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