OCAB-OCBS

General Regulation EN 1090

ARG 1090 Revision **00**

General Regulation

EN 1090 Voluntary certification

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1 Object of the present general regulation

In relation with CPR[1] and EN 1090-1[2] together with EN 1090-2/3, the present General Regulation ARG 1090[3] describes the reasons, the principles, the objectives and the scope of a voluntary certification in the fields covered by steel or aluminium construction. All these are based on a thorough analytical survey and an extensive assessment of the present situation described hereinafter.

2 Extensive assessment of the present situation

Since 1 July 2013, the CE-marking for construction products is ruled by CPR while it was covered by CPD[4] until then. Preamble 30 of CPR mentions that: "*Due to the difference in the meaning of the CE marking for construction products, when compared to the general principles set out in Regulation (EC) No 765/2008[5], specific provisions should be put in place to ensure the clarity of the obligation to affix the CE marking to construction products and the consequences thereof.*" It is a fact that construction products present intrinsic specificities as compared to other products liable to be CE-marked. In very simple terms, a major difference lies in the fact that most construction products operate in service not as such as they were delivered by the manufacturer but after their incorporation in the construction works[6]. Although that fact could be identified with CPD, it may be said that the entry into force of CPR has resulted in highlighting again these specificities and in complicating the eligible scope of standardization and certification activities. By the way, many documents edited under CPD have not yet been revised according to CPR. CPR itself raises questions and is presently under a stage of public enquiry liable to lead to its revision in the next months. It is therefore necessary to describe in detail the present situation of CE-marking and to highlight the areas that may raise confusion and need alternative solutions based on a voluntary certification. That comprehensive analysis is complex. It is based on a thorough survey dealing with the following topics:

- Declaration of performance, CE-marking, inspection documents (drawing up, derogations from drawing up a declaration of performance, content of a declaration of performance, concept of "threshold level", technical pertinence of a declaration of performance, examples of declarations of performance for steel grade S235JR)
- Distinction between distributors and manufacturers according to the European directive on product liability or to CPR

[1] Regulation (EU) N° 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC
[2] References to standards are listed in Chapter 6
[3] **A**lgemeen **R**eglement/**R**èglement **G**énéral
[4] Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products
[5] Regulation (EC) N° 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93
[6] *'construction works' means buildings and civil engineering works* (see CPR, definitions in Article 2, other definitions of the CPR will be reproduced later in this document for ease of reading)

- Respective obligations of distributors and of manufacturers according to CPR
- Requirements of EN 1090 standards regarding constituent products (identification, inspection documents according to EN 10204, traceability, non-conforming products)
- Content of CE-certificates
- Activities exerted by the manufacturer outside his own premises

For sake of an easier visibility, this survey is related in chapter 5. It highlights the important role devoted to distributors by CPR together with the lack of any rules dealing with their certification. It illustrates that a declaration of performance for a same product may be edited in different forms which confuse the consumer as regards the characteristics really covered by the manufacturer for that product. It shows that activities carried out by a manufacturer on the construction site itself give raises to different understanding and possible contradictory consequences. This surveys thus discloses the fields of a voluntary certification whose aim is to clarify the things in a clear manner avoiding in any case a duplication with CE-marking.

3 Principles, objectives and scope of the present voluntary certification

3.1 Principles, objectives and scope for the certification of FPC without fabrication operation

This part of the present voluntary certification covers all the parts of the FPC defined by EN 1090-1 completed by the requirements of EN 1090/2-3:

1. that involve neither structural design nor any fabrication operation such as: cutting (sawing, shearing and nibbling, thermal cutting), shaping (cold forming, hot forming), holing (boring, punching, reaming), welding, mechanical fastening, surface treatment (painting, thermal spraying, hot dip galvanizing),
2. but include activities of procurement, identification, transportation, handling and storage and delivering to the customer of products processed as such.

This part of the scope concerns the manufacturers duly certified according to EN 1090 who may place onto the market products not being submitted to fabrication operations (for example, a plate to be integrated in the structure but which needs to be cut on size on site during erection by another contractor no being subjected to CE-marking, for instance. Distributors are obviously mainly concerned by this part of the scope because many of them have a double activity of

a. providing constituent products received from a steelmaker or metallurgic aluminium company and managed according to processes described in item 2 above
b. providing fabricated components out of these constituent products resulting from activities described in item 1 above such as: cutting (sawing, shearing and nibbling, thermal cutting),

shaping (cold forming, hot forming), holing (boring, punching, reaming), welding, mechanical fastening, surface treatment (painting, thermal spraying, hot dip galvanizing).

This part of the scope thus covers the gap induced by the restriction of the possibility to emit a declaration of performance according to EN 1090 on products corresponding to case “a” above having, however, undergone only part of the FPC applicable to EN 1090.

To avoid confusion in the wordings, the economic operators concerned by activity “a.” above are generally designated as distributors but their tasks also involve the application of an FPC, so they are therefore considered manufacturers[7]. Indeed, the difference between “a.” and “b.” manufacturers is the following one:

a. **a-Manufacturers** have the task to minimise the modifications on the constituent product so that their initial declaration of performance issued by the producer remains valid,
b. **b-Manufacturers** apply fabrication processes on the constituent product that will induce modifications of the constituent product (for instance by punching or welding), the aim is to control those modifications so that the performance of the fabricated component may be declared in a new document (namely a DoP according to EN 1090).

3.2 Principles, objectives and scope devoted to the disclosure on relevant specific information regarding the CE-certified FPC in a specific certificate

Having regard to the newly imposed limitation on the content of information liable to be written in the CE-certificate, this part of the scope of the present voluntary certification bears on the disclosure on a separate certificate of the following information, which is an integral part of the CE-certified FPC and which is worth of publication:

- Processed steel grades,
- Applied welding processes according to the nomenclature of ISO 4063[8],
- Coordinates of the Responsible Welding Coordinator(s).

3.3 Parts of the certified FPC exerted outside the premises of the manufacturer

When components fabricated within the premises of the manufacturer and sold to a customer are considered as being placed onto the market and liable of a declaration of performance, the application of an FPC according to EN 1090 for activities exerted on the construction site are no more eligible to a

[7] CPR, Article 2, 19: ‘manufacturer’ means any natural or legal person who manufactures a construction product or who has such a product designed or manufactured, and markets that product under his name or trademark;

[8] ISO 4063:2009 establishes a nomenclature for welding and allied processes, with each process identified by a reference number. It covers the main groups of processes (one digit), groups (two digits) and sub-groups (three digits). The reference number for any process has a maximum of three digits. This system is intended as an aid in computerization, drawings, the drafting of working papers, welding procedure specifications, etc.

declaration of performance according to CPR. The manufacturer should, however, be able to declare that his FPC according to EN 1090 was applied totally so as to ensure the validity and continuity of the previously declared performances. This information and declaration is part of the voluntary certification and the voluntary associated certificate. This part of the scope concerns work carried out on site which includes preparation[9], welding, mechanical fastening and surface treatment. To be eligible to this kind of certification, the FPC of the producer certified for CE-marking must already include the concerned activities and the supplementary provisions for exerting on the construction site must be defined and validated.

4 Specific documents ruling the present certification

The present voluntary regulation is ruled by the following documents:

4.1 BRP 1090,

- Particular Regulation defining the administrative rules of the present voluntary certification,

4.2 TRA 1090,

- Application Regulation defining the technical rules of the present voluntary certification,

4.3 COV 1090,

- Certification agreement between OCAB-OCBS and the certified company defining the contractual rules of the present voluntary certification.

5 Background major information

Since 1 July 2013, the CE-marking for construction products is ruled by CPR while it was covered by CPD until then. Preamble 30 of CPR mentions that: "*Due to the difference in the meaning of the CE marking for construction products, when compared to the general principles set out in Regulation (EC) No 765/2008[10], specific provisions should be put in place to ensure the clarity of the obligation to affix the CE marking to construction products and the consequences thereof.*" It is a fact that construction products present intrinsic specificities as compared to other products liable to be CE-marked. In very simple terms, a major difference lies in the fact that most construction products operate in service not as such as they were delivered by the manufacturer but after their incorporation in the construction works. Although that fact could be identified with CPD, it may be said that the entry into force of CPR has resulted in highlighting again these specificities and in complicating the eligible scope of standardization and certification activities. By the way, many documents edited under CPD have not

[9] *Preparation: activity performed on the constituent steel products to produce the parts ready for assembly and inclusion in components. As relevant, this comprises e.g. identification, handling and storage, cutting, shaping and holing.* (see ARG 1090 for other definitions)

[10] Regulation (EC) N° 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93

yet been revised according to CPR. CPR itself raises questions and is presently under a stage of public enquiry liable to lead to its revision in the next months. It is therefore deemed necessary to give the background information hereunder disclosed with the aim to fully document the basis of the voluntary certification ruled by the present regulation related to EN 1090 standards.

5.1 Declaration of performance, CE-marking, inspection documents

Both CPR and EN 1090-1 define the conditions for *CE-marking* in relation to the execution of structural steelwork as structures or as manufactured components. This includes among others the concept of *declaration of performance*. Rules for applying CE-marking and editing a declaration of performance are described in Chapter 2 of CPR (articles 2 to 10). Article 8.3 of the CPR states for any construction product covered by a harmonised standard the CE marking is to be considered as the only marking which attests conformity of the construction product with the declared performance in relation to the essential characteristics, covered by that harmonised standard. It could then be concluded that the declaration of performance is the sole document that provides the information necessary and sufficient to exert manufacturing operations with a construction product. This is not necessarily the case in so far as EN 1090-2[11] requires specifically in its article 5.2 that the properties of supplied constituent products shall be documented in a way that enables them to be compared to the specified properties; their conformity with the relevant product standard shall be checked by means of inspection documents according to EN 10204. It cannot be denied that there is some inconsistency between the requirements of CPR on the one hand and of standards harmonised or not on the other hand. This evidence is entirely recognized by the European Commission who since the acting of force of CPR writes, in the document publishing the titles and references of harmonised standards under Union harmonisation legislation[12], the present statement: *The provisions of Regulation (EU) No 305/2011 prevail over any conflicting provisions in the harmonised standards*. A fact is that EN 1090-2 is not a harmonised standard and that until now, it is usually recognized that inspection documents specified by this standard are a mandatory issue. In such a case, it is of prime importance that the companies involved with EN 1090 standards use the right inspection documents as ruled by EN 10204. This goes together with the disposal of the valid declarations of performance and CE-markings requested by CPR.

5.2 Drawing up of a declaration of performance

Article 4 of CPR states: "*When a construction product is covered by a harmonised standard or conforms to a European Technical Assessment which has been issued for it, the manufacturer shall draw up a declaration of performance when such a product is placed on the market.*" This article

[11] The same applies for EN 1090-3.
[12] Commission communication in the framework of the implementation of Regulation (EU) No 305/ 2011 of the European Parliament and of the Council laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC (Publication of titles and references of harmonised standards under Union harmonisation legislation)

makes it clear that the drawing up of a declaration of performance for a construction product requires in a mandatory manner:

- on the one hand, that **this product is placed on the market**,
- on the other hand, that this product is considered as a **construction product** (and not a construction work or part of it).

The concept of a kit[13] is by the way addressed here but indeed the question to be dealt with is much more general and complex, it will be documented later in this regulation.

5.3 Derogations from drawing up a declaration of performance

Article 5 of CPR states that a manufacturer **may** refrain from drawing up a declaration of performance when placing a construction product covered by a harmonised standard on the market under different circumstances, among others when the construction product is manufactured on the construction site for its incorporation in the respective construction works in compliance with the applicable national rules and under the responsibility of those responsible for the safe execution of the construction works designated under the applicable national rules. Since EN 1090-2 edicts rules for erection on site, it comes that some companies simply derogate from the obligation to be certified against EN 1090-1 and do evidently draw no declaration of performance, taking as argument that they act not as manufacturers[14] according to CPR but as contractors[15] and not bound to be certified. Other companies certified against EN 1090-1 refrain from drawing up a declaration of performance and CE-marking when they install themselves the components on site and do not sell these components to another company in charge of the installation on site. This situation creates confusion for the citizen who in some cases receives legally established certification documents and in other cases simply just nothing.

5.4 Content of a declaration of performance

5.4.1 Requests from CPR

Article 6 of CPR details the content of the declaration of performance and states first that "*The declaration of performance shall express the performance of construction products in relation to the essential characteristics of those products in accordance with the relevant harmonised technical specifications.*" Then it mentions that the declaration of performance shall among others contain[16]:

- *"the list of essential characteristics, as determined in the harmonised technical specification for the declared intended use or uses;*

[13] *'kit' means a construction product placed on the market by a single manufacturer as a set of at least two separate components that need to be put together to be incorporated in the construction works*
[14] Fabricant (FR), Fabrikant (NL)
[15] Entrepreneur (FR), Aannemer (NL)
[16] For ease of reading, all the content of Article 6 is not reproduced here but only the items relevant for the present regulation.

- *the performance of at least one of the essential characteristics of the construction product, relevant for the declared intended use or uses;*
- *for the listed essential characteristics for which no performance is declared, the letters 'NPD' (No Performance Determined)."*

5.4.2 Performance, level, essential characteristic, construction product

The following definitions given by CPR are first recalled:

- '***performance of a construction product***' *means the performance related to the relevant essential characteristics, expressed by level or class, or in a description*
- '***level***' *means the result of the assessment of the performance of a construction product in relation to its essential characteristics, expressed as a numerical value*
- '***class***' *means a range of levels, delimited by a minimum and a maximum value, of performance of a construction product*
- '***essential characteristics***' *means those characteristics of the construction product which relate to the basic requirements for construction works*
- '***construction product***' *means any product or kit which is produced and placed on the market for incorporation in a permanent manner in construction works or parts thereof and the performance of which has an effect on the performance of the construction works with respect to the basic requirements for construction works*

5.4.3 The concept of "threshold level"

Before commenting the above, it is worth considering Article 2 of CPR dealing with definitions and the concept of "threshold value" defined as follows: "***threshold level*** *means a minimum or maximum performance level of an essential characteristic of a construction product*". Preambles of the CPR dealing with threshold values should also be carefully considered as well as some articles:

- *(14) Where an intended use requires threshold levels in relation to any essential characteristic to be fulfilled by construction products in Member States,* ***those levels should be established in the harmonised technical specifications****.*
- *(16)* ***Threshold levels determined by the Commission*** *pursuant to this Regulation should be generally recognised values for the essential characteristics of the construction product in question with regard to the provisions in Member States and should ensure a high level of protection within the meaning of Article 114 of the Treaty on the Functioning of the European Union (TFEU).*
- *(17) Threshold levels can be of a technical or regulatory nature and may be applicable to a single characteristic or to a set of characteristics.*

- *Where appropriate, the* ***Commission shall also determine, by means of delegated acts*** *in accordance with Article 60, the threshold levels for the performance in relation to the essential characteristics to be declared*[17].
- ***When provided for in the relevant mandates****, the European standardisation bodies shall establish in harmonised standards threshold levels in relation to essential characteristics and, when appropriate, for intended uses, to be fulfilled by construction products in Member States*[18].

5.4.4 Technical pertinence of a declaration of performance

Indeed, the various options permitted by the CPR as well as the legal concept of threshold value lead to a major conclusion, according to which the ***No Performance Determined*** option may be used by many producers for many essential characteristics, while the user of the construction products does really expect to read firmly and clearly defined and guaranteed performances for all relevant essential characteristics. It will be immediately objected to that conclusion that several harmonised standards fix threshold values for most essential characteristics, this is indeed the case for structural steels and the present edition of EN 10025-1:2004:

Table ZA.1 — Relevant clauses

Essential characteristics	Requirement clauses[a] in this (or another) European Standard	Levels and/or classes	Notes
Tolerances on dimensions and shape	7.7.1		pass/fail
Elongation	7.3.1		threshold values
Tensile strength	7.3.1		threshold values
Yield strength	7.3.1		threshold values
Impact strength	7.3.1 + 7.3.2		threshold values
Weldability (Chemical composition)	7.2 + 7.4.1		threshold values
Durability (Chemical composition)	7.2 + 7.4.3		threshold values

[a] In EN 10025-2 to EN 10025-6 the clause numbers are the same.

However, it comes that such provisions on threshold values are not found in the similar in EN 10210-1:2006[19] and EN 10219-1:2006[20] standards that cover quite similar kinds of products as EN 10025-1:2004. The final word comes when reading the mandate M120 edited by the Commission[21] in 1998, thus according to CPD but still in force under CPR: **the mandate does not quote the wording of *threshold level***.

[17] CPR, Article 3-3, Basic requirements for construction works and essential characteristics of construction products
[18] CPR, Article 27-3, Levels or classes of performance
[19] Hot finished structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery requirements conditions
[20] Cold formed welded structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions
[21] European Commission Directorate-General III - Industry, Legislation and standardization; telematics networks - Standardisation, including industrial aspects of electronic trading - Brussels, 11 March 1998 - M/120 - Mandate to CEN/CENELEC concerning the execution of standardisation work for harmonized standards on structural metallic products and ancillaries

That results in the situation according to which levels or classes that are presently defined in European standards may be quoted either in the not harmonised parts of the standards (this is the case for EN 10025 in parts -2 to -6:2004) or in normative annexes of the harmonised standard (this is the case for EN 10210-1:2006 and EN 10219-1:2006 as regards the mechanical properties and weldability, while tolerances on dimensions and shape are defined in the non-harmonised part 2 of these standards). Durability which includes the suitability for hot-dip zinc-coating is defined either as a threshold value (EN 10025) or as an option (EN 10210 and EN 10219).

That quite simply results in the fact that all presently edited harmonised standards that require threshold levels are simply not in line with CPR and should withdraw that concept. This means that any revision of such harmonised standards will lead to the situation that unless threshold levels would be defined by the Commission itself, all essential characteristics should simply be declarable with obviously:

- either the NPD option left open
- or at a level left open to the appreciation of the manufacturer.

This is a real risk for the consumers who should then carefully read each declaration of performance and check whether this declaration is in line with the expected properties to be guaranteed. As a matter of fact, this risk is duly identified in the CPR and clearly evoked by preamble 30[22] which deals with the important role devoted to importers and distributors in the supply and distribution chain.

Nevertheless, the CPR does not contain any request for a certification of the activities of importers or distributors, and this is obviously a major shortage or breach of the European legal rules, that opens the need for a compensating voluntary certification.

Another question that will arise is the language used by the manufacturer for establishing the declaration of performance. Provisions in this regard are provided in CPR[23][24]. In reality, it is observed

[22] (41) *All economic operators intervening in the supply and distribution chain should take appropriate measures to ensure that they place or make available on the market only construction products which are in compliance with the requirements of this Regulation, which aim to ensure the performance of construction products and fulfil basic requirements for construction works. In particular, importers and distributors of construction products should be aware of the essential characteristics for which there are provisions on the Union market, and of the specific requirements in Member States in relation to the basic requirements for construction works, and should use this knowledge in their commercial transactions.*

[23] Article 7, Supply of the declaration of performance: *4. The declaration of performance shall be supplied in the language or the languages required by the Member State where the product is made available.*

[24] : Article 11, Obligations of manufacturers: *6. When making a construction product available on the market, manufacturers shall ensure that the product is accompanied by instructions and safety information in a language determined by the Member State concerned which can be easily understood by users.*

that many declarations of performance are written in the language of the country of the manufacturer or only in English. It is to be mentioned that in practice, English is not commonly understood by some small companies.

5.4.5 Examples of declarations of performance for steel grade S235JR according to EN 10025-1/-2:2003

As an example of the discrepancy between the various declarations of performance emitted by certified producers, the following excerpts are presently hereunder, as regards the essential property of durability for a basic steel grade, i.e. S235JR:

Durability (Chemical composition)	Nominal thickness (mm)		Values (%)	
	>	≤	max	
		140	C* : 0,17	Cu : 0,55
			Mn : 1,40	S : 0,040
			P : 0,040	N** : 0,012
* For nominal thickness > 40 mm C: 0,20. For nominal thickness >100 mm: C content upon agreement				
** The max. value for nitrogen does not apply if the chemical composition shows a minimum total Al content of 0,020% or if sufficient other N binding elements are present				

Durability	nominal thickness (mm)	values (Heat Analysis)		
		min (Mass.-%)	max (Mass.-%)	
	≤ 25	NPD	C: 0,17 Mn: 1,40 P: 0,035 S: 0,035 Cu: 0,55	N: 0,012

Durability (Chemical	Type and grade	C % max ≤16mm	C % max >16≤40mm	Si % max	Mn % max	P % max	S % max	N % max	Cu % max
	S235JR	0.19	0.19	---	1.50	0.045	0.045	0.014	0.60
	S235JO	0.19	0.19	---	1.50	0.040	0.040	0.014	0.60
	S275JR	0.24	0.24	---	1.60	0.045	0.045	0.014	0.60

Durabilité (composition chimique) Durability (chemical composition)	Apte à la galvanisation classe 3 / Suitable for zinc-coating class 3 (0,14% ≤ Si ≤ 0,25%)

Beständigkeit *Durability*	>	≤	Schmelzenanalyse *Ladle analysis* (%) ≥	≤	
	-	40		C: 0,17 Mn: 1,40 N: 0,012	P: 0,040 S: 0,040 Cu: 0,55
	40	100		C: 0,20 Mn: 1,40 N: 0,012	P: 0,040 S: 0,040 Cu: 0,55

Weldability & Durability	Table 4 & 6 of EN 10025-2

Durabilità / *Durabilité*	S235JR/J0/J2	NPD

It comes that the essential characteristic of durability which should according to EN 10025-1 be declared as a threshold value is indeed declared in a variety of manners, avoiding in many cases the suitability for hot-dip zinc-coating, and possibly using the “NPD” option. The present situation is simply the result of the inconsistency between the CPR and the harmonised standards, which leads to a situation de jure legal but de facto inducing a huge technical confusion.

5.5 Distributors or Manufacturers?

5.5.1 According to the European directive on product liability

The European directive concerning liability for defective products[25] is quite clear in its Article 1:

- "*The producer shall be liable for damage caused by a defect in his product.*"

Article 3 defines a producer as "*the manufacturer of a finished product, the producer of any raw material or the manufacturer of a component part and any person who, by putting his name, trade mark or other distinguishing feature on the product presents himself as its producer.*"

Article 3 adds "Where *the producer of the product cannot be identified, each supplier of the product shall be treated as its producer unless he informs the injured person, within a reasonable time, of the identity of the producer or of the person who supplied him with the product."*

That European directive puts therefore a huge emphasis on the question of **traceability**: indeed, in case of doubt about the true origin of a product, the last supplier who has placed this product on the market will support the whole responsibility of the defect.

Traceability is, however, not the single issue regarding the liability of a producer because as stated by Article 7: "*The producer shall not be liable as a result of this Directive if he proves: … that, having regard to the circumstances, it is probable that the defect which caused the damage did not exist at the time when the product was put into circulation by him or that this defect came into being afterwards ;* …".

This article directly identifies the activities exerted by a supplier[26], namely a distributor, and among others those of quite normal practice which are linked to the necessary management of a product by the distributor. In case of doubt, the distributor will have to prove that his activities were made according to the rules and to the state of the art, otherwise he will be deemed liable.

5.5.2 According to CPR

Article 15 of CPR states that a distributor shall be considered a manufacturer and be subject to the obligations of a manufacturer when he modifies a construction product already placed on the market in such a way that conformity with the declaration of performance may be affected. The interpretation of that article creates a debate. Indeed, it is clear that for many metallic products a distributor has to perform many operations that can affect the conformity to the initial declaration of performance, this

[25] Council Directive of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products (85/374/EEC)
[26] That directive does not use the wording of "distributor"

because many products are delivered from the steel producer in a given conditioning and that the distributor has to handle these products, generally heavy, to keep them in stock. These operations may lead to mechanical damages, confusions in identification while the keeping in stock may induce ageing effects that indeed may change the properties. However, many persons including public authorities consider that only fabrication activities are to be considered as those liable to modify the conformity to the initial declaration of performance and eligible for drawing up a declaration of performance according to EN 1090. If this is not the case, the distributor has to provide the declaration of performance of the constituent product. This way of proceeding is not covered by a legal certification requested by CPR and gives therefore no written evidence of conformity to the customer. That situation is complicated by the fact that many distributors do fabrication operations on some of the products they deliver and are thus delivering a declaration of performance according to EN 1090 because they are certified in this regard, not only, of course, for that given fabrication operation but for the whole factory production system they apply, which obviously covers the operations of identification, handling and storage, clearly defined and ruled by EN 1090-2/3.

5.5.3 In summary

From the directive and the regulation, it is obvious that the liability of a distributor is as critical as that of the producer in so far as any doubt remains in any activity exerted by a distributor.

Let us simply in this regard consider a manufacturer of metallic structures that has its FPC certified according to EN 1090-1 for the sole activities covered by a mandatory manufacturing operation (for instance sawing or welding) but not for those not covered by any transformation. Such a discriminative system would lead to a completely confusing situation for which the producer could always very easily put into serious doubt the effective application of that FPC in any given case, after fabrication or not. As a matter of fact, FPC must be as simple as a door, namely open or close for a door, fully applied and certified for an FPC, otherwise dangerous edge effects shall occur.

The gap left open by the complexity of the placing onto the market for the applicability of CE-marking must definitely be filled by a complementary certification, covered by another certificate but by the same certification scheme.

To be quite clear and because the distinction between a distributor and a manufacturer is in fact fuzzy, that complementary certification applies as well to a distributor that may exert marginal fabrication operations (requesting a CE-certification) as to a manufacturer of metallic structures that may be brought to deliver quite marginal quantities of not manufactured products (metallic structural products,

among others[27]). To make economic significance, both certifications need to be applied in quite simultaneous ways.

5.6 Article 14 of CPR

Article 14 of CPR deals with the "***Obligations of distributors***" and states what follows:

1. ***When making a construction product available on the market, distributors shall act with due care in relation to the requirements of this Regulation.***
2. ***Before making a construction product available on the market distributors shall ensure that the product, where required, bears the CE marking and is accompanied by the documents required under this Regulation and by instructions and safety information in a language determined by the Member State concerned which can be easily understood by users. Distributors shall also ensure that the manufacturer and the importer have complied with the requirements set out in Article 11(4) and (5) and Article 13(3) respectively.***
3. ***Where a distributor considers or has reason to believe that a construction product is not in conformity with the declaration of performance or not in compliance with other applicable requirements in this Regulation, the distributor shall not make the product available on the market until it conforms to the accompanying declaration of performance and it complies with the other applicable requirements in this Regulation or until the declaration of performance is corrected. Furthermore, where the product presents a risk, the distributor shall inform the manufacturer or the importer thereof, and the market surveillance authorities.***
4. ***A distributor shall ensure that, while a construction product is under his responsibility, storage or transport conditions do not jeopardise its conformity with the declaration of performance and compliance with other applicable requirements in this Regulation.***
5. ***Distributors who consider or have reason to believe that a construction product which they have made available on the market is not in conformity with the declaration of performance or not in compliance with other applicable requirements in this Regulation, shall make sure that the corrective measures necessary to bring that product in conformity, to withdraw it or recall it, as appropriate, are taken. Furthermore, where the product presents a risk, distributors shall immediately inform the competent national authorities of the Member States in which they made the product available thereof, giving details, in particular, of the non-compliance and of any corrective measures taken.***
6. ***Distributors shall, further to a reasoned request from a competent national authority, provide it with all the information and documentation necessary to demonstrate the conformity of the construction product with the declaration of performance and compliance with other applicable requirements in this Regulation in a language which can be easily understood by that authority. They shall cooperate with that authority, at its***

[27] In some case, these products could be welding electrodes, bolts,..

request, on any action taken to eliminate the risks posed by construction products which they have made available on the market.

5.7 Articles 11(4) and (5) of CPR

Article 11 of CPR deals with the "***Obligations of manufacturers***" and states what follows:

5.7.1 Article 11-4

Manufacturers shall ensure that their construction products bear a type, batch or serial number or any other element allowing their identification, or, where the size or nature of the product does not allow it, that the required information is provided on the packaging or in a document accompanying the construction product.

5.7.2 Article 11-4

Manufacturers shall indicate on the construction product or, where that is not possible, on its packaging or in a document accompanying it, their name, registered trade name or registered trade mark and their contact address. The address shall indicate a single point at which the manufacturer can be contacted.

5.8 Article 13(3) of CPR

Article 13 of CPR deals with the "***Obligations of importers***" and is not relevant in the present regulation.

5.9 Requirements of EN 1090-1 regarding constituent products

Chapter 6.3 of EN 1090-1 relates to FPC and lists in its section 6.3.5 the requirements regarding constituent products used in manufacture:

The manufacturer shall implement a written inspection procedure for checking and recording that constituent products conform to the specification, and for tracing that they are correctly used in component manufacture.

The requirements for traceability of constituent products given in EN 1090-2 and EN 1090-3 shall be complied with.

The specification for the constituent products used in manufacture shall be retained according to the manufacturer`s FPC procedures.

NOTE The requirements for traceability in EN 1090-2 and EN 1090-3 are dependent on execution class.

5.10 Requirements of EN 1090-2 regarding constituent products

Chapter 5 of EN 1090-2 states what follows:

5.10.1 5.1 General

Generally, constituent products to be used for the execution of steel structures shall be selected from the relevant European Standards listed in the following clauses.

If constituent products that are not covered by the standards listed are to be used, their properties shall be specified. The relevant properties to be specified shall be as follows:

- *a) strength (yield and tensile);*
- *b) elongation;*
- *c) stress reduction of area requirements (STRA), if required;*
- *d) tolerances on dimensions and shape;*
- *e) impact strength or toughness, if required;*
- *f) heat treatment delivery condition;*
- *g) through thickness requirements (Z-quality), if required;*
- *h) limits on internal discontinuities or cracks in zones to be welded, if required.*

In addition, if the steel is to be welded, its weldability shall be declared as follows:

- *i) classification in accordance with the materials grouping system defined in CEN ISO/TR 15608 or;*
- *j) a maximum limit for the carbon equivalent of the steel, or;*
- *k) a declaration of its chemical composition in sufficient detail for its carbon equivalent to be calculated.*

Definitions and requirements of EN 10021 shall apply together with those of the relevant European product standard.

5.10.2 5.2 Identification, inspection documents and traceability

The properties of supplied constituent products shall be documented in a way that enables them to be compared to the specified properties. Their conformity with the relevant product standard shall be checked in accordance with article 12.2 of this standard.

For metallic products, the inspection documents according to EN 10204 shall be as listed in Table 1.

Type 3.2 inspection documents are also suitable if Type 3.1 documents are listed in Table 1.

For structural bolting assemblies and other fasteners, inspection documents according to the EN ISO 16228 series may be used instead of documents according to EN 10204.

Table 1 - Inspection documents for metallic products

Constituent product	Inspection documents
Structural steels (Tables 2 and 3)	
Structural steel grade ≤ S275	2.2 a, b
Structural steel grade > S275	3.1 b
Stainless steels (Table 4)	
Minimum 0,2 % tensile yield strength ≤ 240 MPa	2.2
Minimum 0,2 % tensile yield strength > 240 MPa	3.1
Steel castings	3.1 c
Welding consumables (Table 5)	2.2
Structural bolting assemblies to the EN 14399 series	3.1 d, e
Structural bolting assemblies to the EN 15048 series	2.1
Bolts f, nuts f, or washers f	2.1
Solid rivets for hot riveting	2.1
Self-tapping and self-drilling screws and blind rivets	2.1
Studs for arc stud welding	3.1
Expansion joints for bridges	3.1
High strength cables	3.1
Structural bearings	3.1

a Inspection document 3.1 if specified minimum yield strength 275 MPa and specified impact energy tested at a temperature less than 0 °C.

b EN 10025–1:2004 requires that the elements included in the CEV formula shall be reported in the inspection document. The reporting of other added elements required by EN 10025-2 shall include Al, Nb, and Ti.

c Inspection document 2.2 if specified minimum yield strength ≤ 355 MPa and specified impact energy tested at a temperature of 20 °C.

d If assemblies are marked with a manufacturing lot number and the manufacturer can trace the measured characteristic values from the internal (factory) production control records on the basis of this number, the 3.1 inspection certificate as in EN 10204 may be omitted.

e The inspection documents shall include the results of the suitability tests.

f Applicable if bolts, nuts or washers are supplied for use in non-preloaded applications and not as a component of a fastener assembly to the EN 14399 series or the EN 15048 series.

5.10.3 5.3 Structural steel products

Structural steel products shall conform to the requirements of the relevant European product standards as listed in Tables 2, 3 and 4, unless otherwise specified. Grades, qualities and, if appropriate, coating

weights and finishes shall be specified together with any required options permitted by the product standard, including those related to suitability for hot dip zinc-coating, if relevant.

Table 2 - Product standards for structural carbon steels

Products	Technical delivery requirements	Dimensions	Tolerances
I and H sections	EN 10025–1 and EN 10025–2 EN 10025–3 EN 10025–4 EN 10025–5 EN 10025–6 as relevant	EN 10365	EN 10034
Hot-rolled taper flange I sections		EN 10365	EN 10024
Channels		EN 10365	EN 10279
Equal and unequal leg angles		EN 10056–1	EN 10056–2
T Sections		EN 10055	EN 10055
Plates, flats, wide flats		Not applicable	EN 10029 EN 10051
Bars and rods		EN 10017, EN 10058, EN 10059, EN 10060, EN 10061	EN 10017, EN 10058, EN 10059, EN 10060, EN 10061
Hot finished hollow sections	EN 10210–1	EN 10210–2	EN 10210–2
Cold formed hollow sections	EN 10219–1	EN 10219–2	EN 10219–2
NOTE EN 10020 gives definitions and classifications of grades of steel. Steel designations by name and number are given in EN 10027–1 and EN 10027–2 respectively.			

Table 3 - Product standards for sheet and strip suitable for cold forming

Products	Technical delivery requirements	Tolerances
Non-alloy structural steels	EN 10025–2	EN 10051
Weldable fine grain structural steels	EN 10025–3, EN 10025–4	EN 10051
High yield strength steels for cold forming	EN 10149 series, EN 10268	EN 10029, EN 10048, EN 10051, EN 10131, EN 10140
Cold reduced steels	ISO 4997	EN 10131
Continuously coated hot dip coated steels	EN 10346	EN 10143
Continuously organic coated steel flat products	EN 10169	EN 10169
Narrow strips	EN 10139	EN 10048 EN 10140

Table 4 - Product standards for stainless steels

Products	Technical delivery requirements	Tolerances
Sheets, plates and strips	EN 10088–4	EN ISO 9444-2, EN ISO 9445 (all parts), EN ISO 18286
Tubes (welded)	EN 10296–2	EN ISO 1127
Tubes (seamless)	EN 10297–2	
Bars, rods and sections	EN 10088–5	EN 10017, EN 10058, EN 10059, EN 10060, EN 10061
Steel designations by name and number are given in EN 10088-1.		

5.11 Relevant parts of article 12.2 of EN 1090-2

Articles 12.2.1 and 12.2.3 are reminded.

5.11.1 12.2.1 Constituent products

Documents supplied with constituent products in accordance with the requirements of Clause 5 shall be checked to verify that the information on the products supplied matches those in the component specification.

- *NOTE 1 These documents include inspection certificates, test reports, declaration of compliance as relevant for plates, sections, hollow sections, welding consumables, mechanical fasteners, studs etc.*
- *NOTE 2 This documentation check is intended to obviate the need for testing products generally.*

The inspection of the surface of a product for defects revealed during surface preparation shall be included in the inspection and test plans.

If surface defects in steel products revealed during surface preparation are repaired using methods that are in accordance with this European Standard, the repaired product may be used provided that it complies with the nominal properties specified for the original product.

There are no requirements for specific testing of constituent products unless otherwise specified.

5.11.2 12.2.3 Non-conforming products

If the documentation supplied does not include a declaration from the supplier that the products conform to the specifications, they shall be treated as non-conforming products until it can be demonstrated that they meet the requirements of the inspection and test plan.

If products are first designated as nonconforming and are subsequently proved to be in conformity by test or retest, the test results shall be recorded.

5.12 Article 6 of EN 10204

Article 6 of EN 10204 deals with the "***Transmission of inspection documents by an intermediary***" and states what follows:

An intermediary shall only pass on either an original or a copy of the inspection documents provided by the manufacturer without any alteration. This documentation shall be accompanied by suitable means of identification of the product, in order to ensure the traceability between the product and the documentation. Copying of the original document is permitted, provided that:

- ***traceability procedures are operated;***
- ***the original document is available on request.***

When producing copies, it is permissible to replace the information on the original delivered quantity by the actual delivered partial quantity.

5.13 Standards for constituent products mentioned in EN 1090-2

Products standards referred to by EN 1090-2 in its chapter 5.3 (cf. §**Erreur ! Source du renvoi introuvable.** of the present document) are not necessarily harmonised standards. Indeed, the harmonised standards for structural steel products are listed in the Official Journal as follows:

CEN	EN 10025-1:2004 Hot rolled products of structural steels — Part 1: General technical delivery conditions		1.9.2005	1.9.2006
CEN	EN 10088-4:2009 Stainless steels — Part 4: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for construction purposes		1.2.2010	1.2.2011
CEN	EN 10088-5:2009 Stainless steels — Part 5: Technical delivery conditions for bars, rods, wire, sections and bright products of corrosion resisting steels for construction purposes		1.1.2010	1.1.2011
CEN	EN 10210-1:2006 Hot finished structural hollow sections of non-alloy and fine grain steels — Part 1: Technical delivery conditions		1.2.2007	1.2.2008
CEN	EN 10219-1:2006 Cold formed welded structural hollow sections of non-alloy and fine grain steels — Part 1: Technical delivery conditions		1.2.2007	1.2.2008
CEN	EN 10224:2002 Non-alloy steel tubes and fittings for the conveyance of aqueous liquids including water for human consumption — Technical delivery conditions		1.4.2006	1.4.2007
	EN 10224:2002/A1:2005		1.4.2006	1.4.2007
CEN	EN 10255:2004+A1:2007 Non-Alloy steel tubes suitable for welding and threading — Technical delivery conditions		1.1.2010	1.1.2011

It results that EN 1090-2[28] is also applicable to structural steel products covered by neither a CE-marking nor a declaration of performance. In those cases, the only documents that may be referred are the inspection documents ruled by EN 10204.

5.14 Content of CE-certificates

The entry in force of CPR had for consequence that the admissible content of CE-certificates applicable for EN 1090 has progressively changed in the last months. Indeed, the position paper about the certification of factory production control (FPC) of steel and aluminium structural components according to EN 1090-1:2009 still stated that "*If the product types produced in a factory incorporate welding, the certificate shall be explicit concerning the welding processes and parent materials covered. Unless the scope of certification is limited to execution class 1, the responsible welding coordinator (RWC) shall also be identified on the certificate…*" Since November 2016[29], it states the following: "*Certificates shall not disclose any information about the internal matters of the manufacturer.* ***Examples of such information not to disclose would be names persons within the organisation of the manufacturer (e.g. the RWC) and welding processes*** *for which the manufacturer has the capability.*" Indeed, many certified companies do wish that their welding

[28] As regards aluminium constituent products, the CE-marking is ruled by EN 15088 which is defined as such: "*This European Standard is an "umbrella" standard which gives the regulatory requirements to enable manufacturers or their agents to affix CE marking, in accordance with Directive 89/106/EEC (Construction Products Directive CPD) to products within the scope of this European Standard. It is intended to be used in conjunction with other referenced material/ product standards (see Figure 1). A manufacturer who has no knowledge of its final destination may sell a product to a stockist. It is the responsibility of the manufacturer, that the product complies with the conditions of CE marking for the stated intended use included as part of the CE marking. If the stockist resells the product for another intended use or changes the product in a way, he in effect becomes a new manufacturer. Consequently, he becomes responsible for the appropriate CE marking of the product that he places on the market. Therefore, irrespective of current terminology in terms of regulatory marking there will only ever be two parties, the seller (the manufacturer) and the buyer (the purchaser). Products CE marked in accordance with this harmonized European Standard can be presumed to have the performances stated with the CE marking. This does not replace the responsibility on the designer to ensure that the final structural product made of aluminium as a whole is correctly designed and its components meet the necessary performance values depending on the design, especially in view of fatigue design.*"

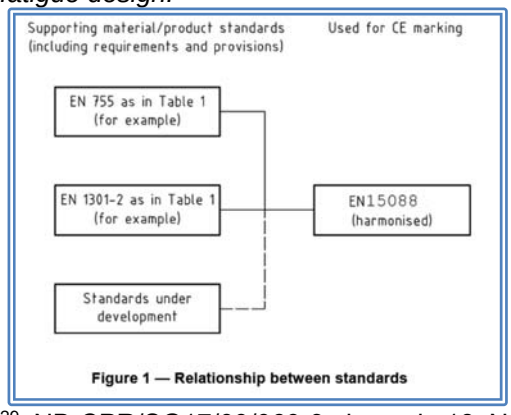

Figure 1 — Relationship between standards

[29] NB-CPR/SG17/09/069r3, issued: 18 November 2016, Approved Guidance (this Position Paper supersedes the previous version, NB-CPD/SG17/09/069r1, issued on 11 September 2009)

coordinator be mentioned on their certificate as well as the welding processes they practice. This important information may no more be included in the CE-certificate issued by the notified body but might be mentioned in another certificate issued by the same body, but not in his quality of being notified. This situation is unclear because, it is not known on which basis such an annexed certificate would be issued unless a voluntary certification clearly defines the applicable modalities.

5.15 Activities exerted by the manufacturer outside his own premises

The term “own premises” for a manufacturer naturally means the manufacturing plant, namely the location where significant manufacturing processes take place; commonly referred to as factory. As mentioned in a position paper of the Advisory Group[30], a location where processes take place after the construction product is placed on the market is not considered (part of) the manufacturing plant. This understanding is logical and in phase with the conditions for drawing up a declaration of performance mentioned in clause of this regulation stating that a declaration of performance is to be drawn **when** the construction product **is placed onto the market** (and not before).

Coming back to EN 1090, components fabricated within the premises of the manufacturer and sold to a customer are to be considered as being placed onto the market and liable of a declaration of performance. Should these components be for instance put together on the construction site for their incorporation in the respective construction works, no further placing onto the market would occur and no further declaration of performance could be drawn. As a result, unless covered by a certification scheme other than CE-marking, the behaviour of these incorporated components would not be assumed by any official document, although the manufacturing processes applied on the construction might be the same or similar to those exerted in the manufacturing plant (welding for instance) and possibly be exerted by personnel belonging to the manufacturer of the spare components himself. The question with regard to EN 1090 is then quite simple but maybe critical: Can notified bodies, yes or not, CE-certify activities carried out not in the premises of the manufacturer but on site by that certified manufacturer himself (no subcontracting)?

If the answer is no: the activities carried out on site are not CE-certified and the manufacturer cannot emit a DoP for a whole bridge but DoPs for the parts of the bridge brought on site (maybe 3 DoPs). There will be therefore no DoP for the whole bridge. That will not interest the customer or owner of that bridge.

If the answer is yes: the activities carried out on site are CE-certified (welding e.g. of the three parts together) and the manufacturer must emit a DoP for the whole bridge. That is what interests the

[30] NB-CPR/17-743r4, issued 29 November 2017, Approved Guidance, GNB-CPR position paper “Basic conditions for notified certification bodies in relation to rebranding and subcontract manufacture”

customer or the owner of that bridge. Now, for the certificate, the notified body will have to write something about the manufacturing locations (address), because the site becomes a manufacturing location... What should then be written on the certificate with respect to the required format?

That question was set to an eminent member of the group of notified bodies who replied from his personal understanding, which has not been reviewed by anybody else and which has therefore no official status:

- *Products made by the manufacturer on the construction site are in a grey area.*
- *They may be considered construction products and covered by CPR or they may be considered part of the construction work (which is not covered by CPR).*
- *Even if they are considered construction products, the manufacturer may refrain from drawing up a declaration of performance, cf. CPR Art. 5.*
- *Therefore, the "status" of the product would very much depend on how the manufacturer is selling/supplying/marketing the product and on the agreement between the manufacturer and the client.*
- *If the manufacturer wishes to consider the product as a construction product, he will need to draw up a declaration of performance and for a product under EN 1090 he will also need a certificate. That certificate will need to cover the "manufacturing plant(s)" in which the product is made. If significant parts are made on site the construction site will be (part of) the manufacturing plant and this should (at least in principle) be mentioned in the certificate. There's nothing in CPR preventing a NB from certifying the FPC carried out at the construction site.*
- *If on the other hand the manufacturer would consider the work he is doing on site part of the construction process there would be no role for the NB.*

It comes therefore that depending on how and when the construction product is placed onto the market, activities exerted by the manufacturer outside his own premises might or might not be covered by CE-marking. The question is delicate and depends indeed on the type of construction product and on the real meaning of a declaration of performance for a component covered by EN 1090. For some cases, the activities fall out of the scope of CE-marking and are thus eligible for the voluntary certification. A parliamentary question raised in this regard led to the answer reported hereunder[31]. For other cases, these activities might on the contrary fall inside the CE-marking in a quite legal manner[32].

[31] Parliamentary questions to the Commission (28 February 2018): "*Is the Commission aware that the Human Environment and Transport Inspectorate (ILT), which performs a supervisory role on behalf of the Ministry of Infrastructure and Public Works in the Netherlands, has decided to suspend enforcement of the rules in the case of manufacturers who supply assembled metal structures as part of a building or of infrastructure, where the manufacturer both produces the materials in a factory and assembles them at a building site? Does the Commission consider that a metal structure which is produced by a single manufacturer and assembled on site by it (and which becomes part of a building or of Infrastructure) in order to perform a single contract that it has accepted falls under the Construction Products Regulation (CPR) and the European harmonised product standard*

6 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

6.1 Execution of steel structures and aluminium structures

- EN 1090-1:2009+A1:2011, Execution of steel structures and aluminium structures - Part 1: Requirements for conformity assessment of structural components
- EN 1090-2:2018, Execution of steel structures and aluminium structures - Part 2: Technical requirements for steel structures
- EN 1090-3:2008, Execution of steel structures and aluminium structures - Part 3: Technical requirements for aluminium structures

6.2 Constituent products

6.2.1 Steels

- EN 10017, Steel rod for drawing and/or cold rolling - Dimensions and tolerances
- EN 10021, General technical delivery conditions for steel products
- EN 10024, Hot rolled taper flange I sections - Tolerances on shape and dimensions
- EN 10025-1, Hot rolled products of structural steels - Part 1: General technical delivery conditions
- EN 10025-2, Hot rolled products of structural steels - Part 2: Technical delivery conditions for non-alloy structural steels
- EN 10025-3, Hot rolled products of structural steels - Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels
- EN 10025-4, Hot rolled products of structural steels - Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels

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EN 1090-1? What action will the Commission take to clarify whether or not a metal structure which is produced by a single manufacturer and assembled on site requires an FPC certificate?" Answer given by Ms BIERIKOWSKA on behalf of the Commission: "*Yes, the Commission was made aware of this by letter of 7 December 2017 from Koninklijke Metaalunie. If a construction product (e.g. a metal structure) is both manufactured and incorporated into the construction work (e.g. a building) by the same economic actor, no transaction or change of ownership of that product takes place between the manufacturing and the incorporation phases. The Commission recalls that, according to Article 1 of the Construction Products Regulation 305/2011 ('CPR'), the regulation lays down conditions for the placing or making available on the market of construction products. In these particular circumstances, and in the absence of any further information to the contrary, the CPR does not appear to be applicable. Consequently, the Factory Production Control (FPC) certification rules based on the CPR do not appear applicable either in the situation described above.*"

[32] Cf. http://www.rrs.erf.be: Concrete in-situ barriers which were traditionally been considered a construction work as opposed to a construction product but are since 2 December 2014 are covered by hEN 1317-5:2007+A2:2012 and thus can bear the 'CE Marking'.

- EN 10025-5, Hot rolled products of structural steels - Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance
- EN 10025-6, Hot rolled products of structural steels — Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition
- EN 10029, Hot-rolled steel plates 3 mm thick or above - Tolerances on dimensions and shape
- EN 10034, Structural steel I and H sections - Tolerances on shape and dimensions
- EN 10048, Hot rolled narrow steel strip - Tolerances on dimensions and shape
- EN 10051, Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels - Tolerances on dimensions and shape
- EN 10055, Hot rolled steel equal flange tees with radiused root and toes - Dimensions and tolerances on shape and dimensions
- EN 10056-1, Structural steel equal and unequal leg angles - Part 1: Dimensions
- EN 10056-2, Structural steel equal and unequal leg angles - Part 2: Tolerances on shape and dimensions
- EN 10058, Hot rolled flat steel bars for general purposes - Dimensions and tolerances on shape and dimensions
- EN 10059, Hot rolled square steel bars for general purposes - Dimensions and tolerances on shape and dimensions
- EN 10060, Hot rolled round steel bars for general purposes - Dimensions and tolerances on shape and dimensions
- EN 10061, Hot rolled hexagon steel bars for general purposes - Dimensions and tolerances on shape and dimensions
- EN 10080, Steel for the reinforcement of concrete - Weldable reinforcing steel - General
- EN 10088-1, Stainless steels - Part 1: List of stainless steels
- EN 10088-2:2005, Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes
- EN 10088-3:2005, Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes
- EN 10088-4:2009, Stainless steels - Part 4: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for construction purposes
- EN 10088-5:2009, Stainless steels - Part 5: Technical delivery conditions for bars, rods, wire, sections and bright products of corrosion resisting steels for construction purposes
- EN 10131, Cold rolled uncoated and zinc or zinc-nickel electrolytically coated low carbon and high yield strength steel flat products for cold forming - Tolerances on dimensions and shape
- EN 10139, Cold rolled uncoated low carbon steel narrow strip for cold forming - Technical delivery conditions

- EN 10140, Cold rolled narrow steel strip - Tolerances on dimensions and shape
- EN 10143, Continuously hot-dip coated steel sheet and strip - Tolerances on dimensions and shape
- EN 10149 (all parts), Hot rolled flat products made of high yield strength steels for cold forming
- EN 10163 (all parts), Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections
- EN 10164, Steel products with improved deformation properties perpendicular to the surface of the product Technical delivery conditions
- EN 10169, Continuously organic coated (coil coated) steel flat products — Technical delivery conditions
- EN 10204, Metallic products - Types of inspection documents
- EN 10210-1, Hot finished structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions
- EN 10210-2, Hot finished structural hollow sections of non-alloy and fine grain steels - Part 2: Tolerances, dimensions and sectional properties
- EN 10219-1, Cold formed welded structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions
- EN 10219-2, Cold formed welded structural hollow sections of non-alloy and fine grain steels - Part 2: Tolerances, dimensions and sectional properties
- EN 10268, Cold rolled steel flat products with high yield strength for cold forming — Technical delivery conditions
- EN 10279, Hot rolled steel channels - Tolerances on shape, dimensions and mass
- EN 10296-2:2005, Welded circular steel tubes for mechanical and general engineering purposes – Technical delivery conditions - Part 2: Stainless steel
- EN 10297-2:2005, Seamless circular steel tubes for mechanical and general engineering purposes - Technical delivery conditions - Part 2: Stainless steel
- EN 10346, Continuously hot-dip coated steel flat products for cold forming - Technical delivery conditions
- EN 10365, Hot rolled steel channels, I and H sections - Dimensions and masses
- EN ISO 1127, Stainless steel tubes - Dimensions, tolerances and conventional masses per unit length (ISO 1127)
- EN ISO 9444-2, Continuously hot-rolled stainless steel - Tolerances on dimensions and form - Part 2: Wide strip and sheet/plate (ISO 9444-2)
- EN ISO 9445 (all parts), Continuously cold-rolled stainless steel - Tolerances on dimensions and form – Part 1: Narrow strip and cut lengths (ISO 9445 series)
- EN ISO 18286, Hot-rolled stainless steel plates - Tolerances on dimensions and shape (ISO 18286)

- ISO 4997, Cold-reduced carbon steel sheet of structural quality

6.2.2 Mechanical fasteners

- EN 14399 (all parts), High-strength structural bolting assemblies for preloading
- EN 15048 (all parts), Non-preloaded structural bolting assemblies
- EN ISO 898-1, Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs with specified property classes - Coarse thread and fine pitch thread (ISO 898-1)
- EN ISO 898-2, Mechanical properties of fasteners made of carbon steel and alloy steel - Part 2: Nuts with specified property classes - Coarse thread and fine pitch thread (ISO 898-2)
- EN ISO 3506-1, Mechanical properties of corrosion-resistant stainless steel fasteners - Part 1: Bolts, screws and studs (ISO 3506-1)
- EN ISO 3506-2, Mechanical properties of corrosion-resistant stainless steel fasteners - Part 2: Nuts (ISO 3506-2)
- EN ISO 4042, Fasteners - Electroplated coatings (ISO 4042)
- EN ISO 6789 (all parts), Assembly tools for screws and nuts - Hand torque tools (ISO 6789)
- EN ISO 7089, Plain washers - Normal series - Product grade A (ISO 7089)
- EN ISO 7090, Plain washers, chamfered - Normal series - Product grade A (ISO 7090)
- EN ISO 7091, Plain washers - Normal series - Product grade C (ISO 7091)
- EN ISO 7092, Plain washers - Small series - Product grade A (ISO 7092)
- EN ISO 7093-1, Plain washers - Large series - Part 1: Product grade A (ISO 7093-1)
- EN ISO 7094, Plain washers - Extra large series - Product grade C (ISO 7094)
- EN ISO 10684, Fasteners - Hot dip galvanized coatings (ISO 10684)
- EN ISO 21670, Fasteners - Hexagon weld nuts with flange (ISO 21670)

6.3 Welding

- EN ISO 3834 (all parts), Quality requirements for fusion welding of metallic materials (ISO 3834)
- EN ISO 14731, Welding coordination - Tasks and responsibilities (ISO 14731)

7 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

- Structure: organized combination of connected parts designed to carry loads and provide adequate rigidity
- Manufacturing: activity required to produce and deliver a component. As relevant, this comprises e.g. procurement, preparation and assembly, welding, mechanical fastening, transportation, surface treatment, and the inspection and documentation thereof.
- Execution: activity performed for the physical completion of the works, i.e. manufacturing, erection and the inspection and documentation thereof.

- execution class: classified set of requirements specified for the execution of the works as a whole, of an individual component or of a detail of a component
- Constituent product: material and product used for manufacturing a component and which remains as part of it, e.g. structural steel product, stainless steel product, mechanical fastener, welding consumable
- Component: part of a steel structure, which may itself be an assembly of several smaller components.
- Preparation: activity performed on the constituent steel products to produce the parts ready for assembly and inclusion in components. As relevant, this comprises e.g. identification, handling and storage, cutting, shaping and holing.

8 History of revisions

8.1 Revision 0, creation