

# **FORCE Certification A/S**

## **ABC-Reinforcing steel**

General terms for certification of reinforcing steel products  
 16<sup>th</sup> edition – June 2018

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## **Introduction and the basis for product certification**

The terms and conditions of this ABC must be complied in order to achieve certification of reinforcing steel products according to international and national standards, Eurocodes, accreditation schemes and guidelines.

FORCE Certification A/S's general conditions extended by this ABC is valid for the agreement of certification. The general conditions have been printed on the reverse of this ABC. The requirements are to be satisfied by FORCE Certification A/S as well as the company in the implementation and main-tenance of the certification process. The basis for the product certification are:

- Eurocode 2, EN 1992-1-1:2004/A1:2015, Edition 2: Design of concrete structures – Part 1-1: General rules and rules for buildings.
- EN 1992-1-1 DK NA:2017. National Annex to Eurocode 2: Design of concrete structures – Part 1-1: General rules and rules for buildings.
- FORCE Certification A/S issues product certificate to manufacturers of reinforcing steel products according to the following product standards:
- DS/EN 10080, 2<sup>nd</sup> Edition of 2006-01-13: Steel for the reinforcement of concrete - Weldable reinforcing steel - General.
- prEN 10138-1: 2009\*: Prestressing steels - Part 1: General requirements.
- prEN 10138-2: 2009\*: Prestressing steels - Part 2: Wire.
- prEN 10138-3: 2009\*: Prestressing steels - Part 3: Strand.
- prEN 10138-4: 2009\*: Prestressing steels - Part 1: Bars.

FORCE Certification A/S has been approved as a Notified Body to perform certification according to European Directives, see [www.forcecertification.com](http://www.forcecertification.com).

The technical regulations for mechanical testing and product design are stated in the product standards.

For manufacturers who have fulfilled the requirements to product certification according to one of the of above mentioned standards, a *certification agreement* between FORCE Certification A/S and the manufacturer is prepared. This certification agreement states the conditions for current production control, inspections by FORCE Certification A/S, the extent of testing and methods. Only when the certification agreement is signed by both parties, FORCE Certification A/S can issue a product certificate to the manufacturer.

The result is the issue of a certificate, and the company in question then has permission, according to chapter 9 and annex B, to use the FORCE Certification A/S logo and maybe also the DANAK logo in its marketing. The certificate verifies that FORCE Certification A/S is confident that the company's reinforcing steel products fulfil the requirements in the product standards.

Regular surveillance audits will be made to confirm that the production system of the company is maintained and that the certified products meet the requirements throughout the whole period of validity.

\* Available on request

## **1. Application for product certification**

The following activities have to be carried out when a manufacturer applies for a product certification:

- Forwarding of application form to FORCE Certification A/S together with information (specification of product).
- FORCE Certification A/S prepares a testing programme according to the specified testing standard (is stated in the product standards), and the testing programme is forwarded to the manufacturer for approval.
- If type testing has been performed previously and/or the properties of the product have been currently documented within the past 12 months, e.g. through other agreements, the results may be used in the evaluation for the certification.
- Agreement on time schedule for tests.

## **2. Type testing**

Type testing includes the following activities:

- inspection from FORCE Certification A/S at the manufacturer, where the manufacturer's organization and production control are audited
- sampling of test specimens for type testing
- type testing at FORCE Technology or another laboratory accredited under EA
- issuing of product certificate, if the initial inspection and the test results are satisfactory.

## **3. Inspection visit at the manufacturer**

### **3.1 General**

To achieve a product certification the manufacturer shall document that the organization and production fulfil the requirements in relevant standard mentioned in clause 2 of this document.

### **3.2 Procedure for initial inspection visit**

If the manufacturer does not already have had the quality system audited in relation to the relevant reinforcing product standard an initial inspection visit will take place. If the manufacturer already has products approved then the initial inspection visit will take place in continuation of a periodic inspection visit. FORCE Certification A/S audits the requirements in DS/EN ISO 9001: 2015 (valid for rolling mills for hot rolled reinforcing steel) or (for other manufacturers) the documented procedures for methods, responsibility and powers for the following:

- purchase
- on-receipt inspection
- process control
- process inspection
- final inspection
- testing
- control of nonconforming product
- corrective actions
- inspection equipment
- measuring equipment
- testing equipment
- product identification
- traceability
- a responsible inspector at one's disposal
- skilled personnel at one's disposal

Furthermore the necessary test specimens for type testing are sampled.

### 3.3 Procedure for periodic inspection visit

Before issuing a product certificate a certification agreement between the manufacturer and FORCE Certification A/S must be established. The agreement deals with among other things the conditions and the extent of periodic inspection visits by FORCE Certification A/S at the manufacturer, whereby the following shall be verified:

- fulfilment of relevant QA system
- relevant changes in organization etc.
- whether the product is identical with the type approved product
- whether the manufacturer at all times performs the required inspection of the production, including testing of the products
- carrying out the testing as specified in the relevant standard mentioned in clause 2 of this document

## **4. The manufacturer's current production test**

The manufacturer shall – as stated in the relevant standard mentioned in clause 2 of this document – appoint an inspector who shall perform internal production control. The inspector who shall be approved by FORCE Certification A/S shall be independent of the production and responsible for the reinforcing product's homogeneity and quality through production inspection.

Amount produced, types with matching markings and all test results shall be recorded.

If mistakes or defects occur which have influence on the product's quality the manufacturer shall inform FORCE Certification A/S immediately. Equally complaints must be forwarded to FORCE Certification A/S immediately.

## **5. Changes in the QA system/product**

The manufacturer is obliged to inform FORCE Certification A/S immediately when changing the QA system and at any planned modification of the product, including Welding Procedure Specifications and certification of welders. A change in these relations may influence the product certification.

If changes are made on the certified product the following activities must be performed:

- the manufacturer shall forward a revised product specification to FORCE Certification A/S
- if additional tests are to be required a test programme will be compiled and the tests performed
- FORCE Certification A/S forwards new product certificate after the termination of the tests with satisfactory results.

Minor changes in the quality system which have no influence on the final product may be informed to FORCE Certification A/S during the current inspection visits. Major changes must be informed to FORCE Certification A/S in order to obtain approval, before they are executed.

## **6. Economy**

The actual prices are stated in the FORCE Certification price list.

All services provided by FORCE Certification A/S in connection with assessment of conformity are invoiced according to time consumption and possible hotel and travelling expenses.

## **7. Regulations for use of certification mark and logo**

FORCE Certification A/S's certification mark and logo are shown in Annex A. The certification mark must be used only on the product or product packing, while the FORCE Certification A/S's logo must be used only at the working place or used on writing paper and advertising material for marketing purposes. FORCE Certification A/S's mark may be used on each product/product packing or for sales purposes. The following applies for use of mark:

- the mark shall be reproduced in its entirety and of reasonable size and uniform colour and followed by number of standard
- the mark is only to be used to accentuate the specific product of the manufacturer
- the mark must not bring discredit to the obtained product certification

- all use of the mark shall cease when the product certification terminates
- all documentation referring to the product certificate shall be withdrawn when the product certification terminates

## **8. Certificate suspension and withdrawal of certificate**

FORCE Certification has the right to suspend a certificate at any time during its period of validity:

- If the product no longer fulfils the specified requirements after retesting
- If manufacturer does not take corrective action within the time limits agreed upon
- If the manufacturer does not permit that surveillance or recertification audits are carried out with the required intervals
- If manufacturer misuses the certificate or the mark
- If manufacturer does not comply with the financial terms and conditions of the certification agreement
- If the manufacturer in any way brings discredit on FORCE Certification A/S
- If the manufacturer has no production of the specific product

During the period of suspension – normally 90 days - is the certificate temporarily invalid.

Status of suspension will be publicly accessible via FORCE Certification A/S's homepage.

At any time FORCE Certification A/S has the right to withdraw the certificate during the time of validity in the event where for example:

- If the manufacturer omits to correct the conditions that lead to suspension within the time limit decided by FORCE Certification A/S

Soon after the information about withdrawal the customer's management system certification is invalid and the customer must at once return the certificate to FORCE Certification A/S.

Status about withdrawal will be available publicly via FORCE Certification A/S's homepage.

Soon after FORCE Certification A/S's information to the customer about suspension or withdrawal of the customer's certification, the customer must cease to use the FORCE Certification A/S and DANAK logo and cease to use all advertising that refers to the certification, including sales material, brochures, homepage etc.

## **9. Confidentiality**

FORCE Certification A/S treats all information gained by its representatives, including any subsuppliers during the certification process or in any other manner as strictly confidential and will not pass on such information to unauthorised persons without the written consent of the company in question.

FORCE Certification A/S has taken measures to ensure that confidential information is not accessible to unauthorised persons.

The company should be aware of the fact that, as a consequence of DANAK accreditation, FORCE Certification A/S is under an obligation, upon request, to supply DANAK with all necessary information for its surveillance with the accreditation, including fees and rates and basis for their calculation. Furthermore, FORCE Certification A/S is under obligation to receive surveillance visits by DANAK, and the company must accept that such a surveillance visit can include the certified activities at the company.

### *Provisions related to GDPR*

FORCE Certification A/S does not require general access to company registrations including registered personal data, and access to sensitive personal data must be cut off. FORCE Certification A/S will not select or extract personal data from the company's registrations.

FORCE Certification A/S must have the opportunity to judge a representative number of employees in order to assess the competence of the staff within the applied certification scheme. This review will mainly take place when visiting the company's premises. If, in case of applications or documentation of corrective actions, the company sends evidence of employee competence to FORCE Certification A/S, this documentation shall not contain any personally sensitive information including CPR numbers, special categories of personal data, union membership or health information. FORCE Certification A/S deletes documents containing personal data after the assessment.

## **10. Appeals and complaints**

In case a customer wishes to make an appeal against a decision made by FORCE Certification A/S this can be addressed within 4 weeks after the receipt of the decision to the Director or directly to the responsible Certification Committee associated with FORCE Certification A/S. Information on contact appears from [www.forcecertification.com](http://www.forcecertification.com).

All appeals are handled by the Chairman of the Certification Committee or an appeal committee appointed by the Certification Committee. The composition of this committee is forwarded to the appellant, who is entitled to put forward a well-founded protest against this composition within 2 weeks. The appellant's reasons of objection is evaluated by the Certification Committee. The Certification Committee decides whether the composition should be changed in accordance with the objection.

Should the company wish to make a complaint against FORCE Certification A/S's activities in connection with the certification, this should be addressed within 4 weeks after the certification to the Director.

Complaints against the certification process are handled by the manager of the area, the Director or the Chairman of the Certification Committee. Employees who have been involved in the complaint in question cannot take part in the decision about the complaint. This also applies for employees who within the last 2 years have been training or advising the complainant in question.

Conformation of the receipt of the complaint/appeal is always forwarded to the complainant within 1 week including information about the expected time of decision. All decisions are forwarded to the complainant in writing with information of any possibilities of appealing.

Should the company wish to make a complaint against FORCE Certification A/S as a Notified Body this can always be submitted directly to the appointing authority.

## **11. Publication**

FORCE Certification A/S maintains a list containing current and relevant information on all type approvals. FORCE Certification A/S undertakes to maintain an up-to-date database over issued certificates on the internet, see [www.forcecertification.com](http://www.forcecertification.com).

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*Changes from 15<sup>th</sup> ed.:*

- Provisions implemented in par. 9 regarding GDPR

**Annex A: Use of FORCE Certification A/S's mark and logo**



FORCE Certification A/S logo

## Annex B: Specifications used on the Danish market

- Introduction

The target group for FORCE Certification A/S is companies within the technical fields where FORCE Certification A/S / FORCE Technology has technical expertise and experience at its disposal. The legislative basis for the certification activities is rules and regulations, which legally implement for example the European Commission's Directives in Denmark.

The basis for the product specifications are:

- Eurocode 2, EN 1992-1-1:2004/A1:2015, Edition 2: Design of concrete structures – Part 1-1: General rules and rules for buildings.
- EN 1992-1-1 DK NA:2017. National Annex to Eurocode 2: Design of concrete structures – Part 1-1: General rules and rules for buildings.
- DS/EN 10080, 2<sup>nd</sup> Edition of 2006-01-13: Steel for the reinforcement of concrete - Weldable reinforcing steel - General.
- prEN 10138-1: 2009: Prestressing steels - Part 1: General requirements.
- prEN 10138-2: 2009: Prestressing steels - Part 2: Wire.
- prEN 10138-3: 2009: Prestressing steels - Part 3: Strand.
- prEN 10138-4: 2009: Prestressing steels - Part 1: Bars.

- Products covered by the specification

The following reinforcing steel products are covered by the specification:

- Hot rolled unalloyed ribbed steel, quenched and self tempered
- Hot rolled alloyed ribbed steel, free cooled
- Hot rolled stainless ribbed steel, free cooled
- Hot rolled unalloyed ribbed steel, free cooled and cold stretched
- Cold rolled unalloyed ribbed steel
- Cold drawn unalloyed and indented steel
- Cold rolled stainless ribbed steel
- Cold drawn stainless and indented steel

- Products specifications

- General requirements

Characteristic yield- or 0.2 stress:  $R_{ek} \geq 400$  MPa  
Characteristic tensile-/yield ratio:  $(R_m/R_e)_k \geq 1,08$   
Characteristic uniform elongation:  $A_{gk} \geq 3\%$

- Special requirements

Characteristic uniform elongation:  $A_{gtk} \geq 8\%$   
Characteristic yield- or 0.2 stress:  $R_{ek} \geq 550$  MPa

- Minimum values

Annex C in Eurocode 2, EN 1992-1-1:2004/A1:2015, Edition 2: Design of concrete structures – Part 1-1: General rules and rules for buildings, is valid.

- Requirement or quantile values

Annex C in Eurocode 2, EN 1992-1-1:2004/A1:2015, Edition 2: Design of concrete structures – Part 1-1: General rules and rules for buildings, is valid.



- Type testing

Rules and requirements in the relevant product standard are valid. Tests are performed according to the following standards:

- DS/EN ISO 15630-1, 1<sup>st</sup> Edition of 2002-07-08: Steel for the reinforcement and prestressing of concrete – Part 1: Reinforcing bars, wire rod and wire.
- DS/EN ISO 15630-2, 1<sup>st</sup> Edition of 2002-07-08: Steel for the reinforcement and prestressing of concrete – Test methods - Part 2: Welded fabric.
- DS/EN ISO 15630-3, 1<sup>st</sup> Edition of 2002-07-08: Steel for the reinforcement and prestressing of concrete – Test methods - Part 3: Prestressing steel.

- Attestation of conformity

DS/EN 10080, 2<sup>nd</sup> Edition of 2006-01-13: Steel for the reinforcement of concrete - Weldable reinforcing steel - General.

- prEN 10138-1: 2009: Prestressing steels - Part 1: General requirements.
- prEN 10138-2: 2009: Prestressing steels - Part 2: Wire.
- prEN 10138-3: 2009: Prestressing steels - Part 3: Strand.
- prEN 10138-4: 2009: Prestressing steels - Part 1: Bars.

FORCE Certification A/S issues certificate where country – certification body – manufacturer – product standard – product no. may be identified.

DK-FC-xxx-10080-yyy

DK-FC-xxx-10138-yyy

- Production control
- DS/EN 10080, 2<sup>nd</sup> Edition of 2006-01-13: Steel for the reinforcement of concrete - Weldable reinforcing steel - General.
- prEN 10138-1: Latest edition: Prestressing steels - Part 1: General requirements.
- Marking

CE-marking is not possible at this moment. The rolled in marking of the manufacturer is acceptable, although no EU coordination is available. FORCE Certification A/S provides logo for marking label.

*Changes from 14<sup>th</sup> edition: prEN 10138-series updated with 2009 edition*

*Changes from 13<sup>th</sup> edition: Updating of standards and references to National Annexes*

*Changes from 12<sup>th</sup> edition: Editorial changes and updating of standards and addresses.*