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Information for applicants of product certificate for scaffolding, edge protection and ladder products as provided by the Norwegian Producer Responsibility Regulations

1. Information on SINTEF Product Certificate for scaffolding, edge protection and ladder products

1.1 Information about the Producer Responsibility Regulations

Regulation concerning the construction, design and production of work equipment and chemicals (the Producer Responsibility Regulations) FOR-2011-12-06-1359, https://www.arbeidstilsynet.no/globalassets/regelverkspdfer/the-producer-responsibility-regulations adresses those who design, produce, import, market, trade, lease or place in use products covered by the regulations. The object of the regulations is to make sure that work equipment and other products are designed and produced in way that protect employees from life and health damage when using the products.

The regulations came in force 1 January 2013. The last amendment was made 21 June 2016, no. 762, and came into force 1 July 2016. One result of this amendment was that type approvals for ladders and scaffolding, issued by the Norwegian Labour Inspection Authority, were replaced by a certification scheme. The certification scheme adresses those who design, produce, import, market, trade, lease or place in use scaffolding, ladders and edge protection products.

Scaffolding, edge protection and ladder products traded in the Norwegian market shall be certified according to the Producer Responsibility Regulations §§ 4.1 – 4.4. Such certificates can only be issued by certification bodies accredited for certification according to the Producer Responsibility Regulations and Regulations concerning Administrative Arrangements (FOR-2011-12-06-1360) Chapter 7.

Scaffolding and ladder products with type approvals from the Norwegian Labour Inspection Authority may be traded in Norway until the period of validity stated in the approval is expired. Without a valid type approval from the Norwegian Labour Inspection Authority it is required to have a product certificate according to the Producer Responsibility Regulations in order to market the product in Norway.

1.2 Information about SINTEF Product Certificate for scaffolding, edge protection and ladder products

SINTEF is accredited for product certification of products covered by the Producer Responsibility Regulations § 4 and Regulations concerning Administrative Arrangements. Certification is performed in accordance with the provisions in EN ISO/IEC 17065.

SINTEF Product Certificates for scaffolding, edge protection and ladder products confirm that the product is in conformity with the requirements in the Producer Responsibility Regulations §§ 4.1 – 4.4.

The normal period of validity for a SINTEF Product Certificate is 5 years, provided that no changes in the product or the production process has been made in the period of validity. A 5 year period of validity is the same for all other types of SINTEF Product Certificates, for CPR certificates, and for SINTEF Technical Approvals. Our experience is that after a 5 year period of validity a revision of the certificate is normally necessary, since significant changes may have taken place during this period. Examples of such changes are changes of product name, holder of the certificate, product, production process, production control, and/or assessment methods.

SINTEF does not issue product certificates for products defined as construction products according to the Construction Products Regulation (CPR). Examples of such products are wall ladders, roof ladders, roof bridges and some roof safety products. For such products is SINTEF Technical Approval offered as product documentation.
Information on SINTEF Technical Approval is found here:
https://www.sintefcertification.no/portalpage/index/56

2. Application for product certification

Information about application procedure and project execution procedure for SINTEF Product Certificates is found here:
https://www.sintefcertification.no/portalpage/index/181

Applicants for product certification of scaffolding, ladders and edge protection products are asked to fill in the application form shown on our web site: www.sintefcertification.no

The application form can be downloaded from the internet and filled in electronically. Documentation as basis for certification assessments should be numbered and registred as attachments to the application form. The application form and attachments such as test reports, calculations, brochures, installation instructions or datasheets are attached to an e-mail sent to certification@sintef.no.

The application form can be downloaded from; https://www.sintefcertification.no/file/index/5015

3. Basis for SINTEF Product Certificates according to the Producer ResponsibilityRegulations

Scaffolds, ladders and temporary equipment for access to and work on roofs and facades with pertaining components shall meet the technical requirements in the relevant NS-EN standards or have a corresponding safety level. (Ref. § 4-1 *Technical requirements* in the Producer Responsibility Regulations.)

Relevant EN-standards are listed in chapter 6.

Documentation as basis for SINTEF Product Certificates according to the Producer Responsibility Regulations shall normally include documentation as described in this chapter. The documentation must be in English or a Scandinavian language.

Documentation provided as basis for certification:

- Material documentation and production drawings
- Calculations
- Tests
- Installation instructions and instructions for use (must be in Norwegian)
- Marking
- Production control (see chapter 4)

NB! In order to maintain an efficient certification process it is important to aim at a best possible structured documentation: A list of all components which are part of the product, with unambiguous reference to production drawings, relevant material certificates, and possible calculation- and test reports verifying structural capacity. F.ex. should material documentation be marked in a way that quickly shows which component the documentation is linked to.

3.1 Material specifications

Materials must be satisfactorily solid and durable to resist normal work conditions. Material specifications with refernce to relevant standards must be provided for all components.

Product standards for most products specify material requirements for the specific products. In most cases are reference to EN 12811-2 applicable for material requirements.

All products should have material quality according to EN standards as well as be able to refer to CE marking where the relevant EN standard requires it. Products with material quality from standards other than EN standards, e.g. Chinese, American and German will be time consuming to consider as the material specifications must be evaluated in detail against relevant EN standards.

Metals must have a control documentation type 2.2 or 3.1 according to EN 10204, and confirm conformity with relevant EN-standards for the product type.

Material protection with regard to durabiliy shall be according to clause 8 in EN 12811-2, or according to other relevant standards.

Welding
For welding of structural connections it is relevant to document welding procedures by a Welding Procedure Specification (WPS). The welding procedure shall confirm that the welding is applicable for connected components, and that the welding is approved according to the relevant part of EN 1090.

Composite materials
Composite and plastic materials are assessed according to EN 131-2. The thickness of structural components must be at least 2 mm, have a Barcol hardness of minimum 35 according to EN 59. Fibers shall not be exposed. Components are tested according to chapter 5.16 in EN 131-2.

Ageing tests shall be performed according to EN ISO 4892-2 and clause 5.16.2.2 b) in EN 131-2 Ageing length is assessed individually for each product (3000h are considered to correspond to approximately 10 years exposure in Scandinavia, but this may vary). Tensile tests before and after ageing are performed according to EN ISO 527-1 and EN ISO 527-2. Test specimens machined from the product shall be of type 1B according to EN ISO 527-2 clause 6.1. Five specimens are tested before ageing and five after ageing. The test result after ageing shall not differ more than 20 % from the test result before aging.

Components shall be tested for heat ageing according to clause 5.16.2.3 in EN 131-2. Relevant strength testing (non-destructive) shall be performed on 3 components, at -20°C and afterwards at +60°C with the same components.

Other ageing methods, f.ex. resistance to alkalinity (+50°C – 500h) and heat aging (+80°C – 2000h) may be necessary to carry out, plus other tests like f.ex. bending test (EN ISO 14125) or shock test (EN 179-1).

Material composition must be confirmed by FTIR-testing.

3.2 Components

Production drawings shall be available for all components, with detailed information on dimensions, welds, part components and matrial specifications according to relevant EN-standards.

Production drawings must be dated and contain information about who has made the drawing, product and component names, and possible revision history. A drawing of the assembled product showing the position of the components should be available when suitable.

Design of components are assessed on the basis of relevant EN-standards.

Production drawings must show compliance with relevant EN-standards where the standards describe specific design requirements.

3.3 Calculations

Structural design of products by calculations may replace design by testing in many cases. Design by testing must be performed when calculations will not give sufficient information about structural capacity.

Calculations shall be performed according to relevant product standards and Eurocodes.

Calculations must be detailed, and clearly show the calculations step by step with references to relevant requirements in standards.

Calculation documents must contain a compilation of all relevant requirements in the standard, and how the calculation results fullfill these requirements.

The calculations must show loads that are transferred via anchors to the building structure from loads on the product (wind, imposed loads, self weight etc.)

3.4 Testing

Testing is performed either to verify calculations, in cases where calculations are uncertain or missing, and where similar, earlier testing is not sufficient documented.

Testing shall be performed according to relevant EN-standards, or according to SINTEF's own testing procedures when EN-standards are not applicable. **NB! Documentation according to clause 3.1 Material specifications, 3.2 Components and chapter 4 should be available before testing**.

Structural design by testing, when design by calculations is not possible, shall in most cases be performed according to EN 12811-3. Tests according to EN 12811-3 requires that the material quality of structural components is known.

Tests which are not carried out by SINTEF shall be performed by an independant test institution who is accredited for the relevant testing. An accredited test institution is not required for the material testing mentioned in clause 3.1.

Prefabricated scaffolding systems shall be tested in full scale on the basis of chapter 4 in EN 12810-2 *Facade scaffolds made of prefabricated components – Part 2: Particular methods of structural design*. If full scale testing is not possible, the certification body should check that the product is in conformity with calculations carried out by the producer, and perform testing of the system's structural components according to their own developed procedures.

3.5 Installation instructions and instructions for use

Installation instructions and instruction for use shall be available for the product (see § 4-4 in the Producer Responsibility Regulations). Valid installation instructions and instruction for use shall be filed at SINTEF.

The instructions shall follow the product during marketing and trading, be in Norwegian language, marked with version number and date, and give information on the following:

- Load class
- Foundations
- Assembly and erection
- Use
- Inspection
- Removal
- Maintenance
- Repairs
- Scrapping criteria
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Additional requirements to installation instructions and to instruction for use described in relevant product standards may also be applicable.

3.6 Marking

The scaffolding shall be permanent and visible marked with name of certification body, certification number, name of producer or registered trade mark, and year of production. (Ref. § 4-3 *Marking* in the Producer Responsibility Regulations.)

All main components shall be marked in a way that shows which product the component belongs to. Marking may be done by sign plates, embossing or in other ways that are resistance to weather exposure, corrosion and other wear and tear.

Marking requirements according to relevant standards may also be applicable.

3.7 Certificate

A certificate in Norwegian is issued in order to confirm that the scaffolding is in conformity with chapter 4 in the Producer Responsibility Regulations. The certificate contains information about the certification body, certification number, name of the holder (producer or supplier), product name, type of product, materials, and a confirmation that the requirements in §§ 4-1 to 4-4 and possible relevant standards are fullfilled.

The certificate shall follow the product during marketing and trading (ref. § 4-5 *Certificate* in the Producer Responsibility Regulations).

4. Description of the producer's own production control

The producer must have a quality system for the running production, and the system shall be supervised by an independant body. An inspection body who has relevant accreditation according to EN ISO 17065 or 17020 shall visit the producer in order to check the producer's internal production control.

SINTEF must have documentation showing that the relevant production sites either is certified according to ISO 9001, or have an agreement about annual auditing with an inspection body who has relevant accreditation. An alternative is factory inspection and auditing performed by SINTEF. Cost estimates for such inspections are given on demand.

5. Supervising product- and production control

All products with SINTEF Product Certificate are subject to a supervising product- and production control. The supervising product- and production control of products certified according to the Producer Responsibility Regulations shall include the following (ref. Regulations concerning Administrative Arrangements §7-3 *Requirements for certification bodies who will issue certificates pursuant to Section 4-5 of the Producer Responsibility Regulations*):

- Control of installation instructions and instructions for use
- Control of marking
- Control of components in order to uncover possible product changes that may have an influence on strength, stability and safety, incuding component dimensions (f.ex. material thickness)
- Control of valid ISO 9001-certificate/other documentation of supervision of the quality system acc. to ch. 4 (for example valid agreement with an accreditet inspection organ).

Evaluation of reports from spot checks of products or part of products, performed by SINTEF or a test laboratory with relevant accreditation.

At least five important, unequal components of the product should be testet. Control of fewer components may be performed for simple products. All components with importance for the product's strength and stability should be controlled within the period of validity of the certificate.

Supervising control testing of products covered by these guidelines is done by annual product selection and control. SINTEF, or another accredited control body, carry out the material selection and test relevant components. The producer shall inform about where material selction can be done.

SINTEF reports to the holder of the certificate about the results from the annual control.

Products which are not damaged as a result of the supervising control may be returned to the producer if possible.

6. Maintaining certification

The following must be fullfilled in order to maintain a valid certification:

- Product, production site, production process and internal production control is unchanged
- Supervising product- and production control is performed with an approved result

Holder of the certificate is obligated to inform SINTEF about possible changes in the certified product, production site, production process, and/or the internal production control, before the changes are implemented for ordinary deliveries. SINTEF must be informed about any changes in the holder's addresses or telephone numbers.

7. Relevant standards for certification according to the Producer Responsibility Regulations

- EN 39 *Loose steel tubes for tube and coupler scaffolds – Technical delivery conditions*
- EN 74-1 *Couplers, spigot pins and baseplates for use in falsework and scaffolds Part 1: Couplers for tubes – Requirements and test procedures*
- EN 74-2 *Couplers, spigot pins and baseplates for use in falsework and scaffolds Part 2: Special couplers - Requirements and test procedures*
- EN 74-3 *Couplers, spigot pins and baseplates for use in falsework and scaffolds Part 3: Plain base plates and spigot pins - Requirements and test procedures*
- EN 131-1 *Ladders – Part 1: Terms, types functial sizes*
- EN 131-2 *Ladders – Part 2: Requirements, testing, marking*
- EN 131-3 *Ladders – Part 3: User instruction*
- EN 131-4 *Ladders – Part 4: Single or multiple hinge-joint ladders*
- EN 131-6 *Ladders – Part 6: Telescopic ladders*
- EN 131-7 *Ladders – Part 7: Mobile ladders with platform*
- EN 1004 *Mobile access and working towers made of prefabricated elements – Materials, dimensions. Design loads, safety and performance requirements*
- EN 1263-1 *Temporary works equipment – Safety nets – Part 1: Safety requirements, test methods*
- NEN 1298 *Mobile access and working towers – Rules and guidelines for the preparation of an instruction manual*
- EN 12810-1 *Facade scaffolds made of prefabricated components – Part 1: Product specifications*
- EN 12810-2 *Facade scaffolds made of prefabricated components – Part 2: Particular methods of structural design*
- EN 12811-1 *Temporary works equipment – Part 1: Scaffolds – Performance requirements and general design*
- EN 12811-2 *Temporary works equipment – Part 2: Information on materials*
- EN 12811-3 *Temporary works equipment – Part 3: Load testing*
- EN 12811-4 *Temporary works equipment – Part 4: - Protection fans for scaffolds – Performance requirements and product design*
- EN 13374 *Temporary edge protection systems – Product specification – Test methods*
- EN 14183 *Step stools*

Further information about SINTEF Product Certification and valid SINTEF Product Certification is given on www.sintefcertification.no.