



# THE FRENCH NUCLEAR SAFETY REGULATIONS EVOLVE

ASN decision of 8-2 article on the « Arrêté ESPN »  
Accreditation ISO/IEC 17025 for testing laboratories

Preparing this change for 2025, together.



## The new Regulatory requirements to respect.

ASN decision n° 2021-DC-0713 of 23 September 2021  
approved by the 06 January 2022 Regulations

For steels and other metals		
<i>Testings done regarding as per norms required by Design Codes, see examples below.</i>		
	N1	N2
Deadline	<b>09/01/2025</b> Starting now for EPR2	<b>09/01/2028</b> Starting now for EPR2
Test made	<ul style="list-style-type: none"> <li>- <b>Room temperature</b> ISO 6892-1</li> <li>- <b>High temperature</b> ISO 6892-2</li> <li>- <b>Longitudinal</b> ISO 5178</li> <li>- <b>Transversal</b> ISO 4136</li> </ul>	<ul style="list-style-type: none"> <li>- <b>High temperature</b> ISO 6892-2</li> <li>- <b>Transversal</b> ISO 4136</li> </ul>
	<ul style="list-style-type: none"> <li>- <b>Room temperature</b> ISO 148-1</li> <li>- <b>Temperature &lt; 0°C</b> ISO 148-1</li> <li>- <b>Test coupon, all T°</b> ISO 9016</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Temperature &lt; 0°C</b> ISO 148-1</li> <li>- <b>Test coupon, all T°</b> ISO 9016</li> </ul>
	<ul style="list-style-type: none"> <li>- <b>Elements :</b> Al, B, C, Cu, Cr, Mo, Mn, Ni, N, P, S, Si</li> </ul>	<del>XXXXXXXXXX</del>
	<ul style="list-style-type: none"> <li>- <b>Grain size index</b> ISO 643</li> </ul>	<del>XXXXXXXXXX</del>
Parts involved	<b>Main pressure-bearing parts of ESPN N1 (*), Materials subject to technical qualification, Weld test coupons</b>	<b>Main pressure-bearing parts of of ESPN N2 vessels (**), Weld test coupons</b>

**ESPN N1** : equipment from the primary (CPP) and secondary (CSP) loops of the pressurised water reactor where failure can lead to major accidents.

**ESPN N2** : non N1 equipment where failure can lead to a serious accident involving a significant release of radioactive materials

(\*) Out of scope

Bolting, thermowell, cap ≤ DN 50 (CPP) and ≤ DN 100 (CSP)  
Branch connection components ≤ DN 50 (CPP) and ≤ DN 100 (CSP)

Main pressure-bearing parts of pipes and related pressure accessories ≤ DN 50 (CPP) and ≤ DN 100 (CSP)

(\*\*) Not submitted

Bolting, thermowell, cap ≤ DN 100  
Branch connection components ≤ DN 100

Nota : the mentioned norms are recommendations, but their applicability are prescribed by the relevant Design and Construction Code which are equally applicable.

**ASN certificated decision n° 2021-DC-0713**  
**linked to the 8-2 article from « Arrêté ESPN dated 30/12/15 »**  
**[Available on the Légifrance website](#)**

- In France, Nuclear Pressure Equipment (NPE [ESPN]) are subject to requirements stemming from the “Arrêté ESPN” regulation ensuring the nuclear safety of nuclear powerplants. This regulation has evolved (article 8.2): certain characterisation tests of materials and weld test coupons must be performed by ISO/IEC 17025 accredited laboratories. Only the laboratories endorsed by an organism member of ILAC shall be recognised as being compliant with French regulations.

**How to anticipate required testings to be performed by an ISO/IEC 17025 accredited laboratory?**

- **As a laboratory:** To commit to being ISO/IEC 17025 accredited and the accreditation must be delivered by an organism member of ILAC. To ensure that testings to be performed respect the RCC-M norms.
- **As a material producer:** To ensure that the involved laboratories have the required accreditation. If necessary, to create a partnership with an accredited lab.
- **As an NPE Manufacturer or a materials reseller:** To verify that the supply chain work with the correctly accredited laboratories for characterisation testings and/or to prepare the execution of additional testings of those that are not accredited.

An aerial photograph of a nuclear power plant with four large, grey, cylindrical cooling towers emitting thick white plumes of steam. The plant buildings are visible in the foreground, and the surrounding landscape is flat and green under a clear blue sky.

## The AFCEN goals

- To elaborate, update and codify precise and practical rules for the design, construction and monitoring in operation of equipment guaranteeing high quality and the nuclear safety expectations required to safely operate nuclear power plants.
- To ensure AFCEN members shall commission or manufacture ESPN (Nuclear Pressure Equipment) in an industrial manner.

For further information, please contact via:

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**This change shall contribute in improving the quality and nuclear safety of nuclear power plants.**

### Useful links



<https://ilac.org/>



<https://www.french-nuclear-safety.fr/>

The AFCEN logo, consisting of the word "afcen" in a blue, lowercase, sans-serif font.

<https://www.afcen.com/fr/>