# AFCEN RCC-M Errata 007 – EN

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# afcen

AFCEN

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## AFCEN RCC-M Errata 007

## NOTE TO USERS

This document provides the corrections described in the table below, affecting the code editions, versions and paragraphs mentioned.

Code edition(s)	Version(s)	Errata description	Paragraph(s)
2018	English, French	Correction of an inconsistency with AFCEN PTAN « NPE technical qualification » 2020 edition	ZY 350, M 3403

Modified parts of text appear in red.

#### RCC-M - 2018 Edition AFCEN RCC-M Errata 007

TPS	Paragraph	Additional requirement	
M 3402	par. 4.2	For thicknesses > 50 mm, add a tensile test at ambient temperature and an impact test at 20°C, sampled at mid- thickness of the prolongation, attachment or test ingot.	
	par. 6 par. 7	Unless there is specific justification, a non-destructive examination of the entire volume is required. Any weld- repaired area must undergo volumetric examination.	
M 3403	par. 4.2	Add a tensile test at ambient temperature and an impact test at 20°C, sampled at mid-thickness of the thickest prolongation (on a single sample) or test ingot.	
	par. 6 par. 7	Unless there is specific justification, a non-destructive examination of the entire volume is required. Any weld- repaired area must undergo volumetric examination.	
M 3406	par. 4.2	Add a tensile test at ambient temperature and an impact test at 20°C, sampled at mid-thickness of the prolongation on a single sample.	
M 4102	par. 4.2	<ul> <li>For thicknesses &gt; 50 mm:</li> <li>Add a tensile test at ambient temperature and an impact test at 20°C, sampled at mid-thickness.</li> <li>The micrographic examination is performed at mid-thickness.</li> </ul>	
M 4105	par. 4.3	<ol> <li>hardness test is carried out on the apex of a bend, on the internal skin of the extrados, with:         <ul> <li>1 per tube bundle on the smallest non-stress- relieved bend.</li> <li>1 per tube bundle on the smallest stress-relieved bend.</li> </ul> </li> <li>The test is performed according to MC 1282.         <ul> <li>Rockwell hardness HR30T ≤ 83 or HRB ≤ 100.</li> </ul> </li> </ol>	
M 4107	par. 4.2 par. 4.3	For plates > 50 mm thick, add a tensile test at ambient temperature and an impact test at 20°C, sampled at mid-thickness on a single sample.	
	par. 6	Exploration by gridding shall be replaced with 100% exploration with coverage of at least 10% of the effective diameter of the transducer between each pass.	
M4109	par. 4.2	<ul> <li>For bars with a diameter &gt; 50 mm:</li> <li>Add a tensile test at ambient temperature and an impact test at 20°C, sampled at mid-thickness.</li> <li>The micrographic examination is performed at mid-thickness.</li> </ul>	

#### 4.2 SAMPLING

The size of samples shall be such that they can provide enough specimens for all tests and retests.

These samples shall be:

1) for elbows: prolongations located at both ends of each elbow which are not cropped until the part has undergone solution heat treatment. The thickness of one of the prolongations shall be representative of the maximal thickness of the part at the heat treatment stage. The size and location of test specimens in these prolongations shall be given in the manufacturing programme (see paragraph 3.1).

Test specimens shall be taken so that their axis is located at least inside the inner quarter of the heat treatment profile thickness. It is recommended to ensure that the test pertinent areas of the specimen shall be located at least 20 mm from the initial casting skins. For each type of test, the test specimens taken from one end are diametrically opposed to those taken from the other end.

2) for the nozzles: adjacent cast blocks (one block per part), welded to the parts before they are subjected to solution heat treatment. The smallest dimension of the block cross-section shall be representative of the maximum thickness of the part.

Test specimens taken from these blocks shall have their axis located inside the inner quarter of the representative thickness and the test-pertinent areas of these blocks shall be located at least 20 mm from the skins.

The dimensions of the blocks and the position of test specimens in the blocks shall be specified in the manufacturing programme (see paragraph 3.1).

#### 4.3 TESTING

#### 4.3.1 Number and content of tests

A - SPECIMENS TAKEN FROM PROLONGATIONS

The number and content of tests are given in table III.

TEST	POSITION OF SPECIMEN	ORIENTATION OF SAMPLE	NUMBER OF SPECIMENS PER TYPE OF TEST	
Tensile test at room temperature	One quarter thickness from inner surface	Tangential	1 at each end 180° apart	
Tensile test at 350 °C	One quarter thickness from inner surface	Tangential	1 at each end 180° apart	
KV impact at room temperature <sup>(1)</sup>	One quarter thickness from inner surface	Tangential with radial notch	3 samples taken from adjacent locations at each end 180° apart	
(1) The impact test may be waived if the A% elongation value at ambient temperature is certified greater than or equal to 45% by the material manufacturer.				

#### TABLE III