

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

20 October 2021

Sub-Committee of Experts on the Transport of Dangerous Goods

Fifty-ninth session

Geneva, 29 November-8 December 2021

Item 6 (c) of the provisional agenda

Miscellaneous proposals for amendments to the Model Regulations on the Transport of Dangerous Goods: portable tanks

Canada requests interpretation of the definition of “fine grain steel” in 6.7.2.1

Transmitted by the expert from Canada

Introduction

1. “Fine grain steel” is currently defined in the UN Model Regulations under 6.7.2.1 as “Fine grain steel means steel which has a ferritic grain size of 6 or finer when determined in accordance with ASTM E112-96 or as defined in EN 10028-3, Part 3”.
2. Standard ASTM E112 does not specify any mention of a “ferritic grain size”, only the austenitic grain size in a ferritic steel.
3. Standard EN 10028-3, Part 3’s scope specifies that “Fine grain steels are understood as steels with a ferritic grain size of 6 or finer when tested in accordance with EURONORM 103.
4. The current Canadian standard for UN portable tanks (CSA B625) currently defines “fine-grain steel” as “Steel that has a ferritic grain size of 6 or finer when determined in accordance with ASTM E112.”. Noting that this definition does not include the reference to standard EN 10028-3, Part 3, the definition in the CSA B625 standard has caused some confusion with Canadian industry given that the ASTM E112 does not specify “ferritic grain size”. Consequently, Canadian stakeholders would like to remove the word “ferritic” in the CSA B625 definition in order to clarify the requirement.
5. Canada is seeking feedback to clarify why the grain size is specified as “ferritic”, and whether a change to the definition in the Model Regulations (and consequently, the CSA B625 standard) is warranted to clarify the requirement.

Questions for the interpretation

6. Given ASTM E112 does not mention “Ferritic grain size”, is it still appropriate for this definition to remain as is?
7. Given ASTM E112 specifies grain size as an austenitic grain size, should the definition of “Fine grain steel” be revised to include a specification for austenitic grain size?
 - (a) Is an austenitic grain size of 6 or finer appropriate for the construction requirements of UN portable tanks?
8. Given the above context, should the definition of “Fine grain steel” be revised as per the potential proposal presented below?

Next steps / Potential proposal

9. If the feedback provided on this matter is favourable to amending the definition of “Fine grain steel”, the expert from Canada is proposing to present an official document at the next session in July 2022 to amend in 6.7.2.1 the definition of “Fine grain steel” to read as follows (deleted text in strikethrough):

“*Fine grain steel* means steel which has a ~~ferrite~~ grain size of 6 or finer when determined in accordance with ASTM E112 or as defined in EN 10028-3, Part 3.”
