# Product property data representation using ISO 10303-235

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The files enclosed in this ZIP file were presented to the meeting of ISO/TC 184/SC4/WG15 held on 18th January 2023. The presentation was requested as a follow-up from the discussion at the previous meeting on the requirement to know more details of what a property value depends on. This concept of the dependencies related to a property value was recognised in ISO 10303-45 ‘Material and other engineering properties’, part of the original Integrated Generic Resources of ISO 10303 Product data representation and exchange, where the dependencies are identified as the data environment. ISO 10303-45 was first published in 1995 and is now in its 5th edition.

ISO 10303-235 (A235) is the Application Protocol that extends ISO 10303-45 to represent the processes and other data associated with the determination of the value of a property of a product. It was found that these processes can be represented with ISO 10303-49, also one of the original parts of the Integrated Generic Resources of ISO 103

The example of the product data representation shown in the instance diagrams and the associated ISO 10303-21 file was a record of an ultrasonic non-destructive evaluation (NDE) of a weld between two steel pipes. It was intended as demonstration of the versatility of AP235 in a UK Government funded project as part of the programme: ‘Developing the civil nuclear supply chain’. The version of AP235 that was used for this demonstration was the first edition of the standard. The project revealed some inadequacies in the first edition of and these were corrected in the second edition published in September 2019. The second edition includes the updated representation of engineering tolerances used in AP 242.

The prototype dictionary of testing methods using ISO 13584 shown as a screen shot in the slide show, was developed by V Kafka[[1]](#footnote-1), Aeronautical Research and Test Institute (VZLU), Prague CK, as a part of a project funded by the European Commission. This project also provided funding for Ferroday Ltd for the development of the ARM of the first edition of AP235. The remainder of the first edition and the complete development of the second edition were achieved with the internal resources of Ferroday Ltd.

ISO 10303-235 can represent any property of any product measured by any method. More information and outlines of examples of several successful applications of the Standard can be found at AP235.org.

1. Kavka, V, Reference Dictionaries for Product Properties, in Becker A.A, (ed) Metal Fabrication and Welding Technology, Nottingham 2003 (ISBN 0-85358-120-7) [↑](#footnote-ref-1)