

PD 5500:2021. Unfired fusion welded pressure vessels



PD 5500:2021 is the latest specification for unfired fusion welded pressure vessels. It covers vessels manufactured from carbon, ferritic alloy and austenitic steels, aluminium, copper and nickel. PD 5500 applies to equipment designed to BS 5500 or PD 5500, in use outside of the EU or manufactured under the Pressure Equipment Directive.

What is this Published Document about?

PD 5500 is the UK's unfired pressure vessels code. This new edition marks the start of a new three-year publishing cycle in which an amendment will be produced each September:

- Amendment 1 is planned for September 2021
- Amendment 2 will come out in September 2022
- The final amendment, amendment 3, will be published in September 2023

Purchasers who buy PD 5500:2021 will receive the upcoming three amendments as part of their subscription to the new edition, which also brings together and repackages all of the content released during the last three-year cycle.

Who is this Published Document for?

PD 5500 is essential reading for organizations that commission, design, build and maintain pressure vessels. It will be used by:

- Mechanical engineers
- Pressure vessel designers
- Manufacturers and inspectors in the oil and gas, petrochemicals and process plant, and energy generation (including nuclear) industries

Why should you use this Published Document?

It specifies requirements for the design, construction, inspection and testing of unfired pressure vessels made from carbon, ferritic alloy and austenitic steels, aluminium, copper, nickel and titanium making it an invaluable reference tool for the design and assessment of pressure vessels.

What's changed since the last update?

Corrections and clarifications were released during the 2018 edition. In addition the following changes were made to enhance the document's accuracy and user-friendliness:

- Major updates to Annex C, *Assessment of vessels subject to fatigue*, to reflect the revision of the UK's fatigue design code **BS 7608, Guide to fatigue design and assessment of steel products**.
- A new material supplement for duplex steels revising and replacing Enquiry Case 5500/87. Entitled *Requirements for duplex and super duplex steels (austenitic-ferritic stainless steels) in the design and construction of unfired fusion welded pressure vessels*, the material supplement was produced with the help of leading pressure vessels manufacturers in the UK. The requirements for duplex steels have been reviewed and updated to reflect increased knowledge and use of these specialist materials. Duplex steels offer a number of advantages over regular stainless steels for specific applications, including pressure vessels: higher strength, good weldability in thick sections, good toughness, and resistance to stress corrosion cracking.
- Updates to all of the existing material supplements for aluminium, copper, nickel and titanium to be consistent with the main text. In the material supplement for copper, information has been added on European Standards for copper alloys. Likewise in the Nickel Supplement, information has been included on European Standards for nickel alloys.
- Updates to Annex G, *Recommendations for the design of local loads, thermal gradients, etc.*, based around recent changes introduced within the European standards arena
- A new Enquiry Case, (new EC 141) on compressive stress limits based around some new work in the European committee arena
 - References to the new Pressure Equipment Directive (PED) (2014/68/EU) have been included as well as the usual updating of all of the cross-referenced standards that appear in PD 5500

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