



Validation of Computer Program ATLAS Strength Calculation Version 10.0.98

Per ASME Boiler and Pressure Vessel Code Section VIII-1 Edition 2021

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We certify, that Lauterbach Verfahrenstechnik GmbH's computer software fulfills the following quality criteria:

The following examples from the '**ASME Section VIII - Division 1 Example Problem Manual ASME-PTB-4-2021**' have been calculated by using the LV strength calculation software Atlas dated 10.11.2022, Version 10.0.98:

- Internal Design Pressure - E4.3.1 bis E4.3.5
- Internal Design Pressure - E4.3.7 bis E4.3.8
- Shells Under External Pressure and Allowable Compressive Stress - E4.4.1 bis E4.4.5
- Shells Under External Pressure and Allowable Compressive Stress - E4.4.7 bis E4.4.8
- Shells Openings in Shells and Heads - E4.5.1 bis E4.5.6
- Flat Heads - E4.6.1 bis E4.6.2
- Spherically Dished Bolted Covers - E4.7.1
- Flanged Joints - E4.16.1 bis E4.16.2
- U-Tube sheets E4.18.1, E4.18.2 und E4.18.4
- Stationary Tube sheet E4.18.5
- Floating Tube sheet E4.18.8

When comparing the calculation results with the ASME code values no deviations greater than 3% have been stated. Excluded are replicable reading errors of values taken from ASME diagrams and small values of auxiliary calculations which are not significant for the calculation itself.

Equations for Aes und Ael in Appendices 1-5 and 1-8 have been changed in Edition 2021!
Results have to be adapted accordingly. Basis is PTB 4-2021!

The calculations can be found on the Internet as PDF files under:

<https://lv-soft.net/en/asme-bpvc-viii-1-2021-validation>

The validation of the latest version 10.0.98 is also valid for all following revisions which do not affect ASME modules, until the next edition of the **ASME Boiler and Pressure Vessel Code Section VIII-1** has been implemented into the LV software.

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