



ALPEMA Responses to Requirements in API 668 (2nd Edition, Dec. 2025)

December 2025

The following Exception and Clarifications are provided as ALPEMA Responses to Requirements in the 2nd Edition of API 668 (December 2025). They were developed collectively by the ALPEMA members.

ALPEMA responses refer to the 4th Edition of the ALPEMA Standards.

Exceptions

API 668 2 nd Ed. para.	API 668 Requirement	ALPEMA Response
6.1.2	The purchaser shall specify if the vendor shall furnish the information necessary to allow the performance of the plate-fin heat exchanger to be modeled using commercially available software. The information provided shall include a stacking sequence or arrangement; dimensional details for each layer, including distributor type and dimensions; identification of fin(s) used; and fin geometry data, including type, height, thickness, fin pitch, fin perforation percentage/serration, length/crest distance (as applicable), and parting sheet thickness.	If requested by the purchaser, each ALPEMA member provides the results of the calculations, but not the calculation details.

Clarifications

API 668 2 nd Ed. para.	API 668 Requirement	ALPEMA Response
6.2.1	Upon receipt of the purchaser's review comments on the outline drawings, the vendor shall furnish detail drawings for the purchaser's review, including header fabrication, header internals for two-phase mixing, connection details, piping fabrication details, and separator vessel details (when provided by the vendor for two-phase distribution purposes). Detailed fabrication drawings for the block including details of proprietary in-layer two-phase devices need not be provided. The information provided shall include the following:	ALPEMA members consider details like mercury tolerant features as proprietary and therefore will not provide full disclosure. All materials will be defined in ASME U1 or equivalent.

API 668 2 nd Ed. para.	API 668 Requirement	ALPEMA Response
7.4.5	When operating conditions exist that can subject a plate-fin heat exchanger to thermal transients, thermal gradients, or cyclic conditions in excess of those described clauses 7.4.2 through 7.4.4, a rigorous stress analysis and cumulative fatigue damage study may be necessary in order to estimate the impact of these events on the design life of the heat exchanger. The need for such analysis, the method of analysis, and the operating conditions to be considered shall be agreed between the purchaser and the vendor.	Unless agreed between the purchaser and the Supplier, fatigue analysis is not considered in Suppliers offer. As a rule, BAHX's do not require fatigue calculations, provided that ALPEMA's recommended good practice during operational conditions are followed, as described in Sections 8.1.4 and 8.1.5 of the ALPEMA Standards.
7.5	The purchaser shall specify a heat transfer coefficient multiplier to be applied to all streams to be used in thermal design of the heat exchanger.	ALPEMA believes a design margin on heat transfer coefficient is too simplistic. Design margin deserves discussion between the purchaser and the vendor.
10.1.1	The purchaser shall specify if after completion of the brazing, the supplier shall provide a certificate confirming that the internal production parameters and quality procedures have been followed in brazing process.	ALPEMA does not recommend requesting this certificate. A code pressure test and record is a superior indication of braze quality. A unit may complete brazing that is within the internal production parameters and quality procedures yet have an undetected geometry issue that results in an unbrazed area that will be detected with the code pressure test. If requested, this braze quality certificate may be supplied after a successful code pressure test.