

Guideline

**Anx I –
02**

CLAP

FORM N°Z018

Version : 1

Directive 87/404/EEC

Directive references: Annexe I

Adopted by WPG: July 1993

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Subject: Clause 2 - Stresses other than pressure

Question: The Directive, in Annex I, clause 2 requires:
"- that the vessels (under the conditions of use) will not be subjected to stresses likely to impair their safety in use".

Answer: This means that the manufacturer must not only take stresses due to pressure into account but also foreseeable stresses due to superimposed weight, mechanical or thermal stresses transmitted by connecting piping, dynamical stresses due to vibrations or due to wind etc.

The manufacturer shall make his evaluation of the level of such stresses considering the intended use of the vessel and take into account the effects of their combination with the stresses generated by pressure. That does not necessarily mean to calculate them: in some cases the presence of additional stresses can be taken into account on the basis of common fabrication practice. A very common case is cyclic stresses due to vibrations caused by an alternative compressor connected to the vessel and transmitted by supports or piping, which could be substantially reduced by an adequate design of the connecting elements or by rounding off of all their sharp corners.

With respect to "foreseeable stresses other than pressure"

- the measures taken with respect to additional stresses, or, possible that the vessel is designed for pressure only, in which case attention must be drawn to the fact that additional stresses must be negligible.

Note: The Commission services will at a future date amend this document to provide more detailed information on its meaning.