Categories

The inspection requirements in the directive are contained in a series of modules. The modules that can be used for a particular application are dependant upon:-

- Risk category
- Mode of manufacture (single or serially produced)
  (Serial means the continuous production of similar vessels,
  serially produced vessels can be treated as single vessels if preferred)
- QA System covering design and / or manufacture

Risk Category
The risk category is dependant upon:-

- **State Of Contents**

  1. **Gas** all gases including Steam
  2. **Liquid** a fluid with a possible vapour pressure less than 0.5 barg and no potential for becoming a gas with a Pressure > 0.5 barg even if the fluid containment is breached.

- **Fluid Group (if in doubt assume group 1)**
  1. Dangerous Substances that are explosive, flammable, toxic or chemically unstable,
  2. All other substances including Steam

- **Type of Equipment**
  1. Pressure Vessels
  2. Steam Generators, Boilers for generating steam or hot water >

110°C, vessels that hold steam but don't generate it are classed as pressure vessels.

3. Pipework, except land or offshore pipework that connects installations together over long distances.
4. Accessories such as safety valves, regulators etc.

- **Design Pressure and Capacity of The Equipment** (Capacity = Volume for vessels and nominal pipe size for pipework).
  Note:- design pressure must not include any static head.

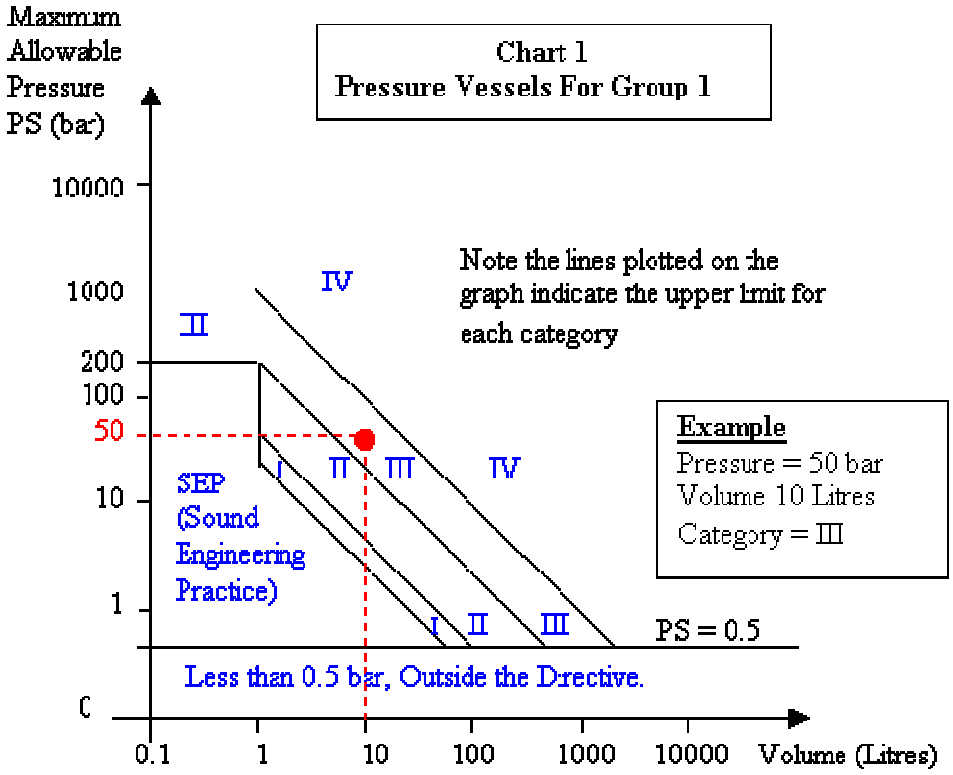
The category is found by entering Design Pressure and Capacity into one of nine charts detailed in the table below:

	VESSELS				STEAM GENERATORS	PIPING			
Contents	Gas		Liquid		-	Gas		Liquid	
Fluid Group	1	2	1	2	-	1	2	1	2
Chart	1	2	3	4	5	6	7	8	9

The Category can be found from the appropriate chart, example of chart 1 shown below, by entering the design pressure in (bar) on the vertical axis and the capacity on the horizontal axis. The area of the graph were the two points coincide is the category. It is possible to move up a category, eg treat a category one as four.

Note if Sound Engineering Practice is upgraded to a higher category it still can not be CE Marked. To CE mark such a vessel the design pressure must be increased to move into the next category.

Note this graph is drawn on a log / log scale



The Table below briefly describes the Inspection Requirements for each Category:-

Category	Description
SEP	Sound Engineering Practice • Equipment in this category Can **NOT**be CE Marked • Does not have to satisfy essential safety requirements • No outside Inspection Body Required
I	• Equipment must be CE Marked • Must satisfy all Relevant ESR's • No outside Inspection Body Required
II	• Equipment must be CE Marked • Must satisfy all Relevant ESR's • Notified Body Required to monitor final inspection

	and test • Notified Body To Approve Welding Procedures and Welders
III	• Equipment must be CE Marked • Must satisfy all Relevant ESR's • Notified Body Required to check design • Notified Body Required to monitor final inspection and test • Notified Body To Approve Welding Procedures and Welders • Notified Body To Approve NDT Personnel • Notified Body To Approve Materials
IV Highest Risk	• Equipment must be CE Marked • Must satisfy all Relevant ESR's • Notified Body Required to check design • Notified Body Required to perform stage inspection during manufacture and monitor final inspection and test • Notified Body To Approve Welding Procedures and Welders • Notified Body To Approve NDT Personnel • Notified Body To Approve Materials

Welding Qualifications (Categories 2, 3 and 4)

The notified body involved with the pressure equipment has the discretion to accept welding qualifications carried out by any organisation. However qualifications approved by other notified bodies or third party organisations approved under the directive must be accepted unless they are technically incorrect on not appropriate to the application.

NDT Qualifications (Categories 3 and 4)

A notified body must verify that all NDT personnel engaged by a manufacturer are suitably qualified. This approval can be carried out at anytime by any suitably accredited notified body, it does not have to be the notified body involved in conformity assessment. An approved NDT operator can't work for another manufacturer under the PED without re-approval.