

# Information regarding the requirements of the Pressure Equipment Directive 2014/68/EU.

## Dovre Sertifisering AS

### GUIDELINE

GL-DSE-2020-006 Acceptance of using TR2000 and ASME under PED 2014/68/EU  
NORMAL CARBON STEEL (CSNT), Not impact tested

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## 1. Materials included in this document

Standard	Grade	Form
ASTM A106	B	Pipe
API 5L	PSL 1 E	Pipe
A672	C60	Pipe
A234	WPB	Pipe fittings
A105		Forging
A516	60	Plate
A516	70	Plate

## 2. Properties for allowable stress

Allowable stresses within the applicable temperature range are defined in ASME B31.3 for each material grade (Table A-1).

## 3. Temperature and toughness

These materials require ISO Charpy V impact testing if they are used at temperatures below 0°C.

Since the MDS limits the chemical composition and the stresses are 20% lower than for the European Harmonised standards, these materials are not to be used below -15°C.

For use of A105 down to -29°C the following requirements are made.

- Material is Grain refined.
- Normalising heat treatment.
- Reduction ratio is at least 4:1.

## 4. Welding and NDT

If materials are used for welding there are restrictions with respect to C, S, P and the defined CE found in EN13480

The weldability is sufficient.

Welding procedures and operators

Directive 2014/68/EU §3.1.2 requires that for equipment in Category II, III and IV the operating procedures and operators are qualified by a recognised third-party organisation within the European Community or a Notified Body. Dovre Sertifisering AS has Notified Body number 2654.

NDT personnel

Directive 2014/68/EU §3.1.3 requires that NDT personnel is qualified. For pressure equipment in categories III and IV, the personnel shall be approved by a third-party organisation recognised by a Member State pursuant to article 20.

## 5. Ductility

The Directive 2014/68/EU §7.5 requires a steel sufficiently ductile. Elongation after rupture is no less than 14 % at a temperature not higher than the lowest scheduled operating temperature as mentioned under §3 of this document.

All the specified materials have minimum ductility exceeding 14% thus, fulfilling the Directive 2014/68/EU ductility requirements

## 6. Forming

The bending radius shall not be less than 3 times the outer pipe diameter. This is required to reduce the risk for strain ageing.

## 7. Documentation and marking

The inspection documentation in accordance with EN 10204:2004 is specified in the MDS. All MDS's require marking of the material ensuring full traceability to the melt.

The requirements in the Directive 2014/68/EU are found fulfilled.

## 8. Abbreviations

C	Carbon
S	Sulphur
P	Phosphorous
CE	Carbon Equivalent
NDT	Non-Destructive Testing
MDS	Material Data sheet