

MatPRO v4.0

MatPRO is a generic material database with extended high temperature properties.

MATERIAL PROPERTIES INCLUDED

- Generic PRG database containing random sampling of materials
- 2000, 2004, 2007 and 2010 ASME Section II Part D Div. 1 & Div. 2 material databases
- 2007 and 2009 ASME B31.1
- 2004, 2006 and 2008 ASME B31.3

HIGH TEMPERATURE MATERIAL PROPERTIES

- API 579, API RP510
- ASME Sec. III Subpart NH.

MatPRO can be used interactively with programs like NozzlePRO and FEPIPE to automatically import the material properties at different temperatures for FEA calculations.

WHY SHOULD I USE MatPRO?

MatPRO is used with PAULIN Research Group programs to import material properties. These properties are imported at the correct average temperature between the inside and outside surfaces of the material.

MatPRO performs quick calculations that should be used when a component cycles or has a local thin area (LTA) or crack. MatPRO performs high temperature creep-fatigue calculations based on ASME Section III Subsection NH, and fatigue calculations per ASME Section VIII-2, smooth bar method, EN 13445 among others.

Simplified crack and LTA evaluations should be used to quickly check Level 1 Fitness for Service. If further analysis needs to be made, then NozzlePRO can be used for Level 3 capability for local thin areas.

Measurement Details

Uniform Metal Loss - in: 0.025
 Future Corrosion Allowance - in: 0.1
 Recommended Maximum Grid Spacing: 1.794 in
 Remaining Strength Factor: 0.90

Critical Flaw Dimensions:

	C1	C2	C3	C4	C5	C6	C7
L1	0.75	0.75	0.75	0.75	0.75	0.75	0.75
L2	0.75	0.48	0.52	0.57	0.56	0.58	
L3	0.75	0.57	0.59	0.55	0.59	0.6	
L4	0.75	0.61	0.47	0.58	0.36	0.58	
L5	0.75	0.62	0.59	0.58	0.57	0.48	
L6	0.75	0.57	0.59	0.61	0.57	0.56	
L7	0.75	0.75	0.75	0.75	0.75	0.75	
L8	0.75	0.75	0.75	0.75	0.75	0.75	

MatPRO is only available as a specialized module within FEPIPE and NozzlePRO. It is not sold as an independent program.