

PRODUCT PROFILES

Pressure Vessel & Heat Exchanger Design Software

Finglow Pressure Vessel Software consists of a fully integrated suite of computer programs for use in the design and assessment of pressure vessels and shell and tube heat exchangers in accordance with various international design Codes and Standards, including PD 5500, ASME VIII Div.1, Stoomwezen, TEMA and Welding Research Council Bulletins 107 and 297.

Among the many features of Finglow software that makes it superior to other systems are:

- fatigue assessment
- analysis of equipment subject to combined wind, seismic and transport or lifting loads
- complete analysis of local loads
- 24 hour technical support

Written by engineers for engineers:

- The programs are written not just to comply with Code minimum requirements, but to provide a complete engineering solution
- The programs check the various limitations specified by the Codes or Standards and additional requirements needed to comply with good engineering practice
- Comprehensive error checking is performed
- Easy and intuitive to use, context sensitive screens with a comprehensive help facility.

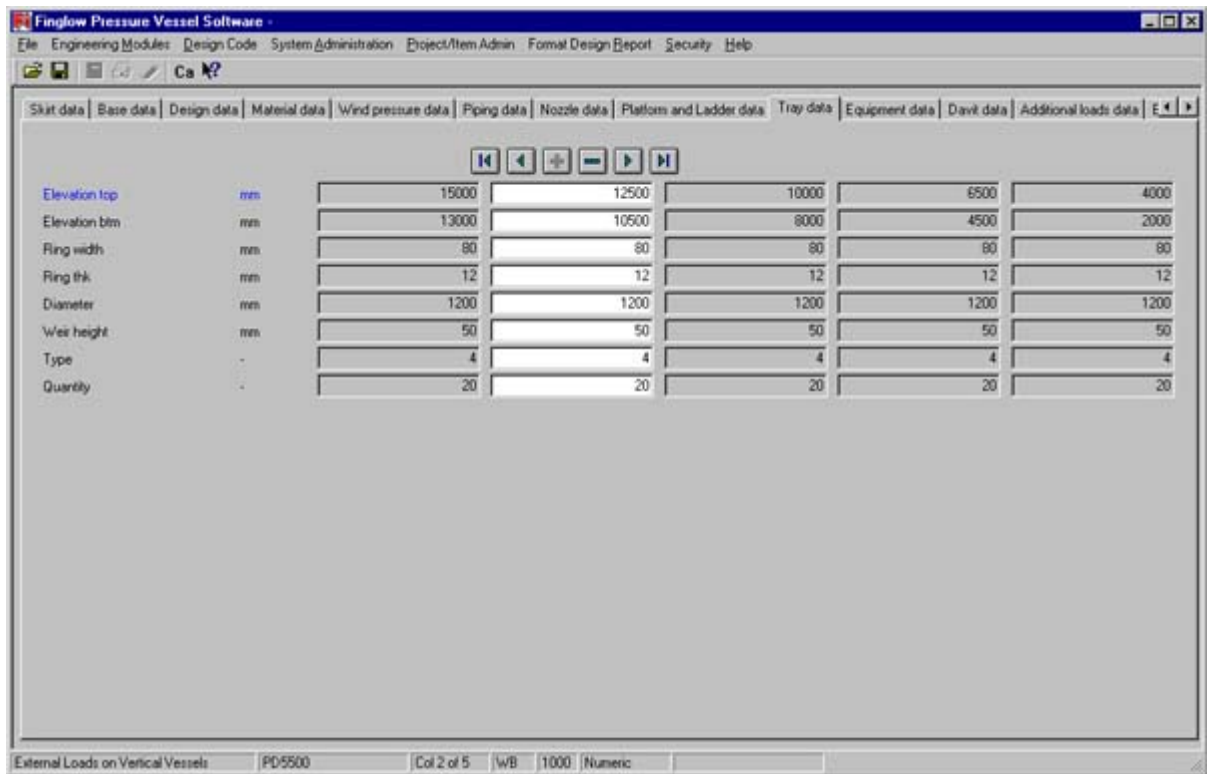
Includes:

- Material property data for a range of material types
- Bolting data to ANSI B1.1, BS 3643 and BS 1580
- Nominal pipe sizes and schedules to ANSI B36.10 and BS 1600
- All the necessary graphs and tables are included, either as equations from the

Code, as curve fitted equations or as tabulated data

Data handling:

- Input data common across the Engineering Modules are passed automatically from one module to another
- The user may change the Design Code from within an Engineering Module and the relevant input data is retained
- The software includes comprehensive facilities for data storage and retrieval and the production of detailed printed output



Report Formatter

This utility program automates the collation and print out of formatted sets of calculations. Facilities are included for reviewing the list of calculations to be printed, changing the description of a calculation, deleting individual calculations. and changing the order in which the calculations will be printed. The user may also change the language of the printed output.

The output includes a title page, an index, a revision history and explanatory notes.

- The title page contains the item number or description, the client's name, the plant and unit descriptions, document number, issue number or letter and issue description, the date when the calculations were printed, and spaces for the calculations to be signed off as checked and approved.

- Each calculation page is numbered and includes the item number or description, the client's name, the document number or letter, the calculation description, the operator's initials, the date when each calculation was performed and the program name and version number.

- Optional explanatory notes may be printed. These contain detailed references to the relevant sections and clauses in the design code or standard and a description of all the Warning and Advisory messages.

Document and page

Tag number

Calculation description

Item	V123	Doc No. :	ABC 1234567
Client :	Pinflow Research Ltd	Page :	1
Title Jacketed shell			
<u>Design data</u>			
External design pressure	N/mm2		0.600
Design pressure	N/mm2		1.350
Design temp	deg.C		150.000
Corrosion: int	mm		3.000
Corrosion: ext	mm		0.000
Material	-		Ferritic steel
Material spec	-		
Design strength: DT	N/mm2		148.000
<u>Dimension data</u>			
Type	-		Cylindrical shell
Stiffness	-		None
Inside diameter	mm		2500.000
New thickness	mm		16.000
Thinning	mm		1.000
End location 1	mm		0.000
End location 2	mm		1000.000
<u>Output data</u>			
Elastic mod E	N/mm2		202000.000
Yield factor ϕ	-		1.400
Radius R	mm		1260.000
Length L	mm		1000.000
Thickness e	mm		12.000
<u>Pressure data</u>			
Factor S	-		3.938
Quantity n	-		9.000
Epsilon (ϵ): Fig 3.6-3	-		1.165
Pressure p_y	N/mm2		1.973
Pressure p_m	N/mm2		2.241
Factor K	-		1.135
DELTA: Fig 3.6-4(a)	-		0.371
Allowable external pressure	N/mm2		0.732
Suitable for external pressure			
Pinflow Software : PD 5500		23 Mar 00 By ELC	
Shells - External Pressure		Version 00.01.00	

Who & When

A statement indicating Code compliance; had any data been out of range suitable warnings would have been printed instead.

**PD5500:2000
Amendment**

Engineering Formula Processor (EFP)

The purpose of the EFP option is to provide Finglow user with the ability to add *manual* calculations to the System output.

Finglow recognises that it is not practical to write computer programs for all the possible combination of engineering calculations to cover such diverse areas as bearing stress checks in lifting lug calculations, centre of gravity calculations, PD 5500 Annex M calculations etc. Each client has differing requirements for each project, with this in mind Finglow have provided an additional module to permit System Users to add their own calculations to System outputs.

The EFP option is extremely easy to use. Calculation sheets can be created and used repetitively, these sheets can be created by the User or supplied by Finglow.

The benefits of using the EFP option versus manual methods include:

Speed	Manual calculations that may take hours to perform and check take minutes to complete.
Accuracy	With complex calculations it is very easy for errors to creep into the calculation which cost time to correct (if found).
Repeatability	It is rare with modern pressure vessel design calculations for there not be a change made through the life of the calculation. With the EFP option these changes can be simply made and recalculation performed.
Hardcopy	The EFP option automatically provides a neat printed output that is included into the standard Sytem Output.