

Contents

1	INTRODUCTION TO THE USE OF THE COMPUTER PROGRAM DON 2.0	2
2	MAIN APPLICATION WINDOW, MAIN MENU AND TOOLBAR	2
2.1	Tool bar	2
2.2	File Menu	3
2.3	Reset	3
2.4	Medium selection menu	3
2.5	Gasket Material Menu	5
2.6	Flange shapes	6
2.6.1	Standard Flange Shapes dialog	7
2.6.2	Non-Standard Shapes dialog	8
2.7	Bolt Selection	8
2.8	Evaluations Menu	9
2.8.1	FSA method	10
3	TECHNICAL SERVICE SUPPORT	12
3.1	Getting Product Support Worldwide	12
3.2	DONIT TESNIT d.d. Technical Service Support	12
3.3	Calling a DONIT TESNIT d.d.	12

1 Introduction to the use of the computer program DON 2.0

Installation of the **Gasket Calculation program DON 2.0** of the *DONIT TESNIT d.d.* is straightforward and is done through executing **Setup.exe** which resides on the first floppy disk of DON 2.0 installation floppies. The installation can be started issuing the following sequence:

1. Insert the DON 2.0 installation floppy #1 into the floppy disk drive A:
2. Select **Start/Run...** A **Run** application dialog will appear.
3. Types into the Open text box the following text: "**A:\Setup**" and click on **OK** button. Installation starts.
4. Follow the instructions of the **Install Shield** application to successfully end the installation.

To start up the **Gasket Calculation program DON 2.0** of the *DONIT TESNIT d.d.*, select the following command sequence: **Start/Programs/Tesnit/Don 2.0. Main application window** with **Main menu** will be displayed on the desktop.

DON 2.0 application is organized in such way that you have to follow and to select the pull down menu commands one after another from left to the right side of the screen. You have to begin with **Medium** command and finish with an **Evaluation** command from the main menu bar.

Once you had all data successfully filled in a program and you opened an Evaluation window, there is also a possibility to change all the input data and results directly from the Evaluation window.

Output files with results (Standard Flange & Non-standard Flange) are shown in the **File/Open** window. To choose a desired file click the desired file you want. Results and comments are presented in the RTF formatted file. To quickly print graph and results, click the **Print** button in the **Graph** window.

The program is powerful tool for successful solutions of sealing problems that occur on motionless joints.

2 Main application window, main menu and toolbar

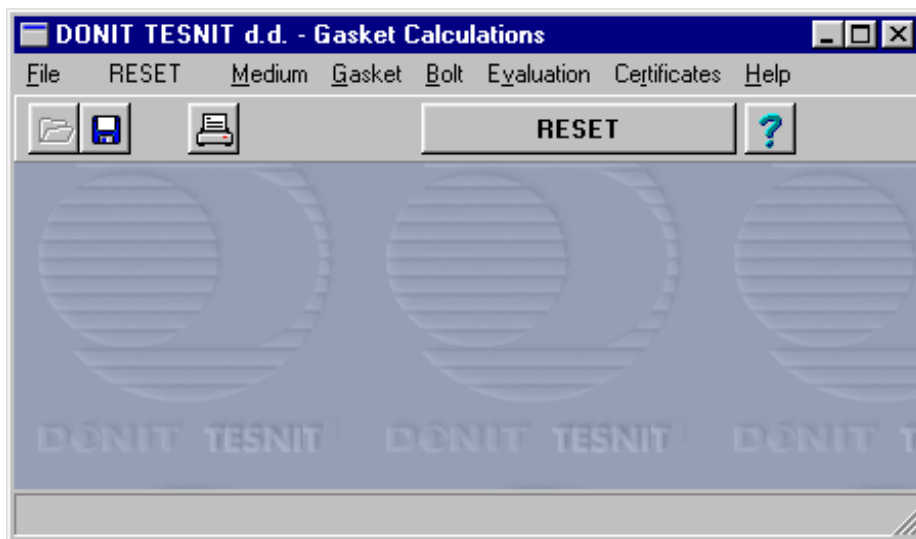






Figure 1: Main application window, main menu and toolbar

2.1 Tool bar

The **Toolbar** is a row of buttons at the top of the main window, which represent application commands. Clicking one of the buttons is a quick alternative to choosing a command from the menu. Buttons on the toolbar activate and deactivate according to the state of the application.

Button	Action	Menu equivalent
	Locate and open a results' file	File/Open
	Save the file	File/Save

	Print the active window	File/Print
	Display help file contents	Help/Contents
RESET	Set default values	RESET

2.2 File Menu

File menu is standard Windows menu. It consists of the following items - commands:

- OPEN - Open **EVAL.gdf** file (last evaluation results) or open any *.gdf file.
- CLOSE - Close *.gdf file.
- SAVE - Save *.gdf file.
- SAVE AS - Save *.gdf file under a new name.
- PRINT - Print *.gdf or Graph file.
- PRINT SETUP - Set printer characteristics.
- EXIT - Exit DON 2.0 application.

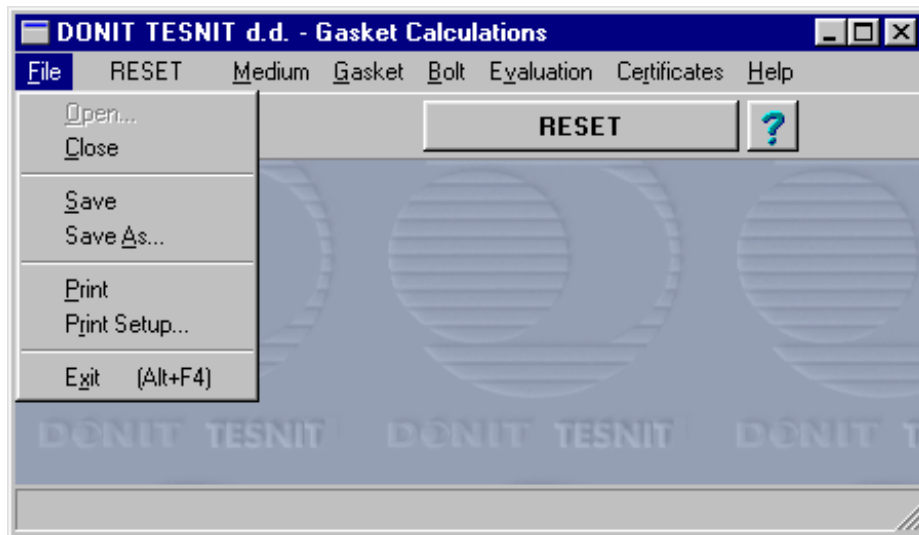


Figure 2: Main application window, main menu and toolbar

2.3 Reset

RESET menu command restores original settings of calculation parameters.

2.4 Medium selection menu

Click on the **Medium** menu opens a **Medium selection dialog**.

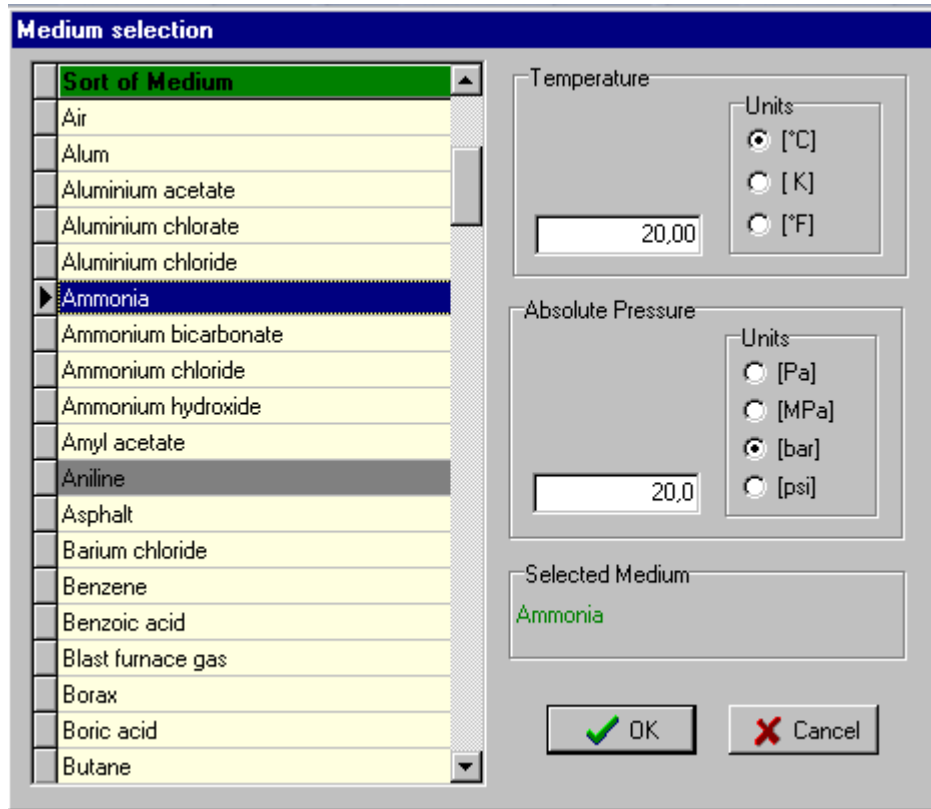


Figure 3: Medium selection dialog

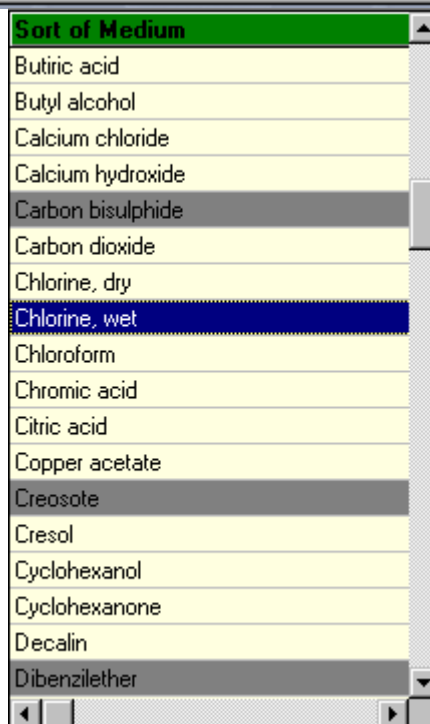


Figure 3: Grid component

At the time being chemical resistance of over 130 media are presented in this data file.

Desired medium is selected with positioning of the cursor on the desired medium. Working temperature and working pressure should be inserted through the keyboard in the current window edit control. You have possibility to insert the temperature data in °C or K or °F. It is possible to insert pressure data in Pa or MPa or bar or psi.

Medium dialog consists a control named **Grid component** that shows medium data in tabular format. To select a field you must click on it with the left mouse-button, after which the chosen field comes blue. Data in gray fields are disabled. If you click one of those fields the program will display an error and/or give you the further work instruction. Scroll bar enables moving up and down.

As already mentioned gray fields on the grid designates incompatibility between the medium and the chosen material. If user insists on using incompatible medium, a small dialog-box opens and gives you two possibilities:

- to go to material menu to change the material or
- to go back and change medium.

When all the required data is chosen click the **OK** button to return to the main application window.

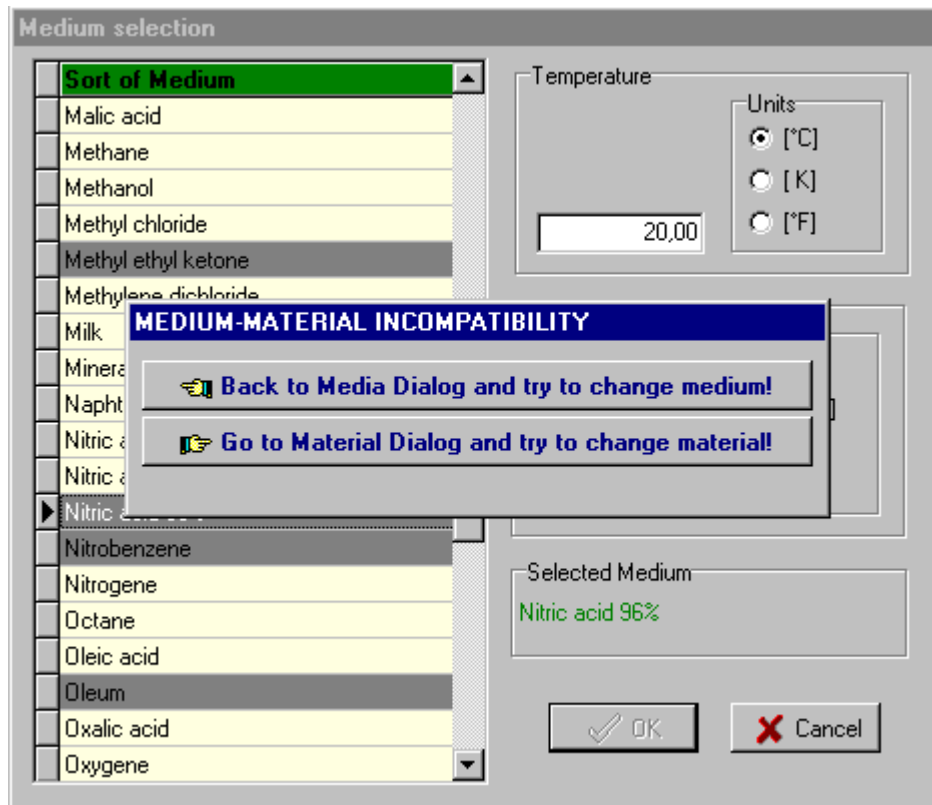


Figure 4: Medium-material incompatibility dialog

2.5 Gasket Material Menu

Through **Gasket/Materials** menu the selection of gasket material is possible.

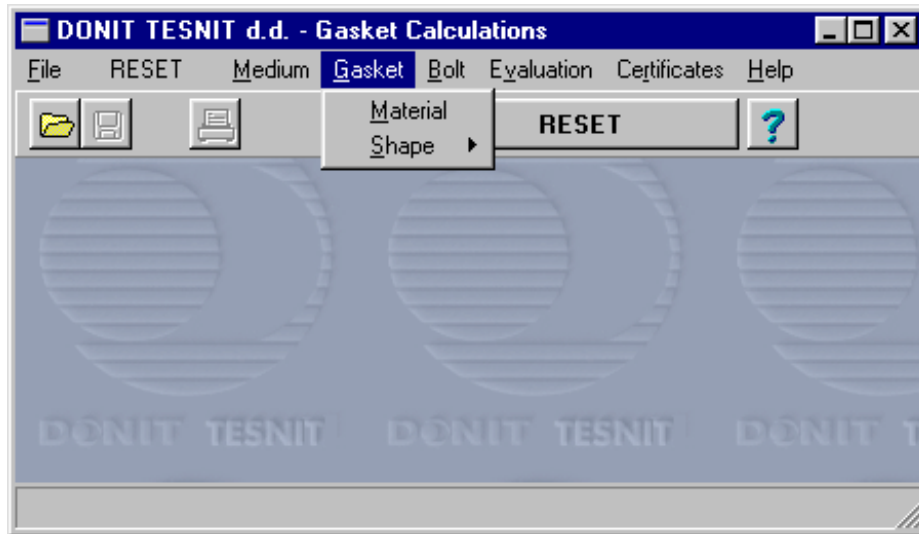


Figure 5: Gasket Material and Shape menu

This command opens a **Material dialog** with nine different **Gasket material groups**. First we select material group and then the material. Gray fields mean (as in previous case) incompatibility with the medium chosen. After we select the material, the program automatically checks whether the material is acceptable regarding the working temperature (temperature and pressure is set through the Medium menu). If not, the program displays an error and a shows a list of enabled materials for the temperature chosen.

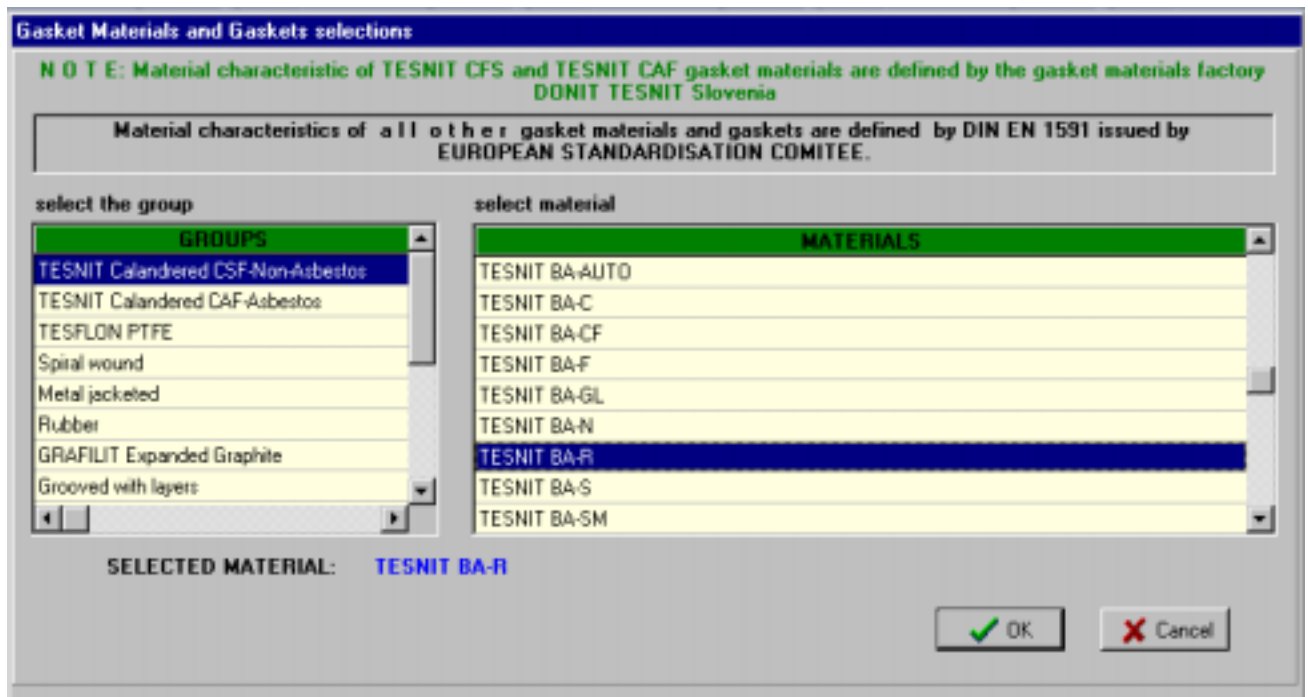


Figure 6: Material selection dialog

2.6 Flange shapes

Through **Gasket/Shape** menu the selection of **Gasket-Flange Shape** is possible.

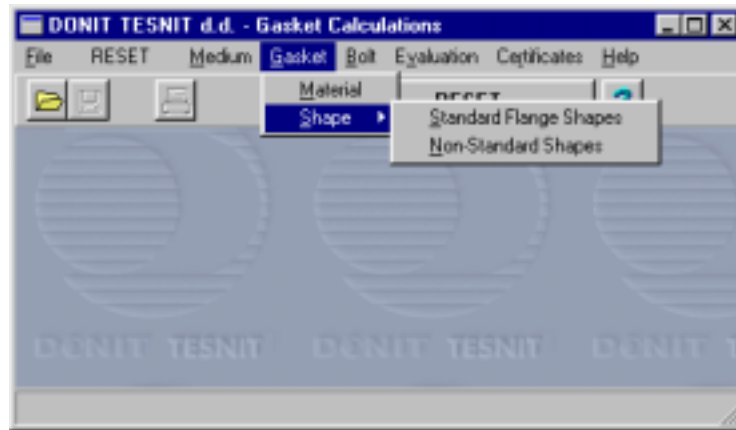


Figure 7: Standard and Non-standard Gasket Shape menu

2.6.1 Standard Flange Shapes dialog

In the **Standard Flange Shapes** grid you can choose among different flange types according to DIN, ANSI B 16.5, API 605 or MSS SP 44.

First you choose one of the standard flange shapes, then nominal pressure and at the end nominal diameter. At PVRC method we can select **assembly efficiency coefficient**.

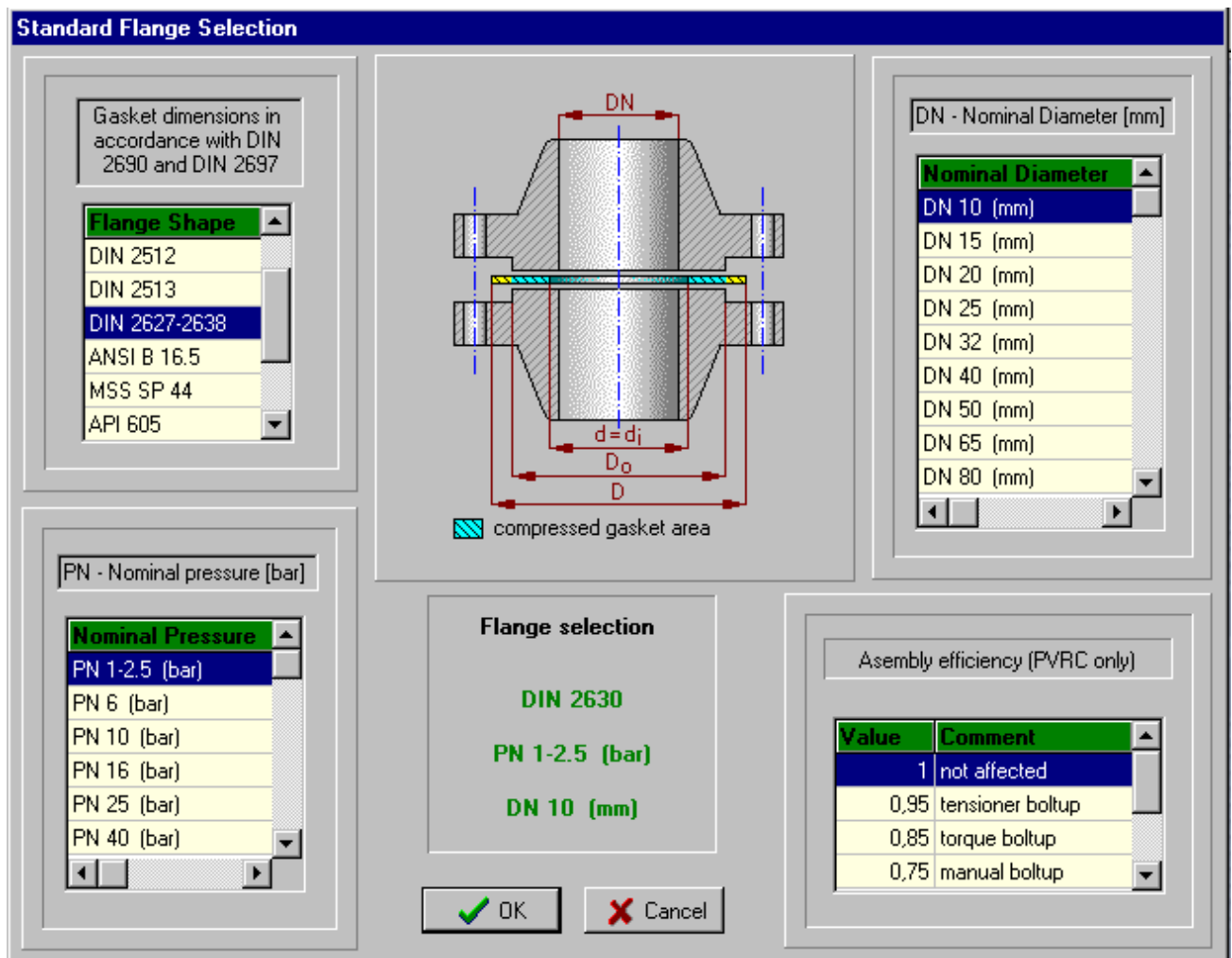
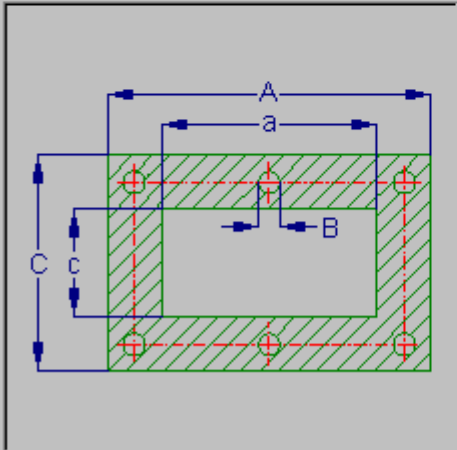


Figure 8: Standard flange shapes dialog

Non - Standard Gasket Shapes

select:

- Non Standard Shapes
- Circular - RF
- Rectangular
- Complex
- Circular - FF
- Rectangular with holes
- Complex with holes



Outer diameter D (mm)

Inner diameter d (mm)

Thickness t (mm)

Side A (mm)

Side a (mm)

Side C (mm)

Side c (mm)

Compressed area X (mm²)

Internal area Y (mm²)

Bolt hole dia B (mm)

Number of holes n (/)

Figure 9: Non-Standard Shape dialog

2.6.2 Non-Standard Shapes dialog

You have possibility to choose among six different flange - gasket shape options shown in the **Non-Standard Gasket Shape** dialog. These Gasket Shape options are:

- Circular - RF,
- Circular - FF,
- Rectangular,
- Rectangular with Holes,
- Complex and
- Complex with Holes.

Program checks if the dimensions entered are correct and shows error messages and/or instructions how to go on.

2.7 Bolt Selection

We can choose one of the three bolt standards. Program chooses appropriate bolt dimension upon previously selected hole diameter (non-standard flange shapes with holes). At standard flange shapes and non-standard ones (without holes) the program suggests a bolt dimension based on a chosen nominal diameter or hole dimension (user can also choose a dimension on his own). After bolt dimension selection we must choose bolt **Steel Quality** and **Friction coefficient**. For ANSI standard the **Overbolting** possibility is given.

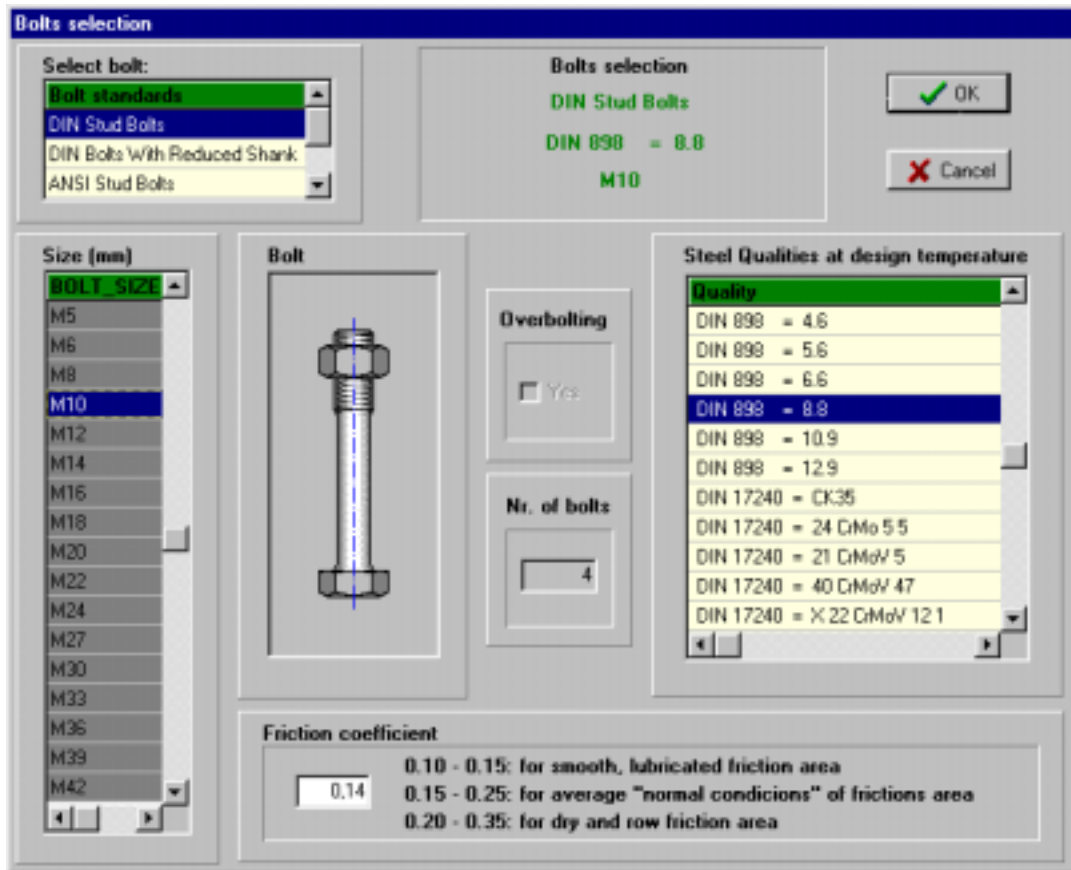


Figure 10: Bolt selection dialog

2.8 Evaluations Menu

There is one method implemented in this computer program:

- FSA -Fluid sealing association and

Once you had all data successfully filled in a program and you opened a **Calculation** window, there is also a possibility to change all the input data and results also directly from the Evaluation window.



Figure 11: Standard and Non-standard Gasket Shape menu

2.8.1 FSA method

FSA Assembly Evaluation dialog consists of input data section in upper part of the window and of output data section in lower part of the window. Through the manipulation of input data buttons one can reach following dialogs and alter the evaluation parameters:

- gasket material selection dialog,
- flange type and gasket shape selection dialog,
- bolt selection dialog,
- media selection and service conditions dialog.

All evaluation parameters can be edited afterwards and simultaneously the program shows new results.

Output data section shows the results of the calculation:

- Maximum allowable stress, clamping force and bolt torque on the basis of bolt material strength,
- Minimum demanded stress, clamping force and bolt torque on the basis of the demanded gasket material leakage class,
- Maximum allowable stress, clamping force and bolt torque on the basis of gasket material strength.

By clicking the **Save** button a save dialog opens and results of calculation can be saved to the RTF formatted file. By clicking the **Print** button the calculation results are sent to the default printer.

By clicking the **Graph** button graph dialog opens. By clicking the **Print** graph button a graph can be sent to the default printer. By clicking the **Print All** button a graph and the legend can be sent to the default printer

INPUT DATA

Service
 Medium: Air
 Temperature: 20,00 °C
 Pressure: 20,0 bar

Flange: DIN 2627-2638
 DIN 2630
 DN 10 (mm)
 PN 1-2.5 (bar)

Gasket
 Material group: TESNIT Calendred CSF-Non-Asbestos
 Material type: TESNIT BA-U
 Thickness: 1,5
 Constants: $y^*=22$ N/mm² , $m^*=1,2$
 Crushing strength: 90,00 N/mm²

Bolt
 Size: M10
 Quality: DIN 838 = 8.8
 Number: 4
 Friction coef: 0,14

OUTPUT DATA

Unit	BOLT		GASKET	
	Max. allowable value	Min. required value	Crushing value	
Assembly gasket stress*	MPa	169,49	25,96	90,00
Assembly bolt load*	kN	120,00	18,38	63,72
Assembly bolt torque*	Nm	58,75	9,00	31,19

*at service temperature

COMMENT: OK. Gasket will seal the joint, if we suppose that assembly conditions and bolting procedure is proper. Be sure that during bolting applied bolt torque will not be greater than crushing bolt

Figure 12: FSA Assembly Evaluation dialog

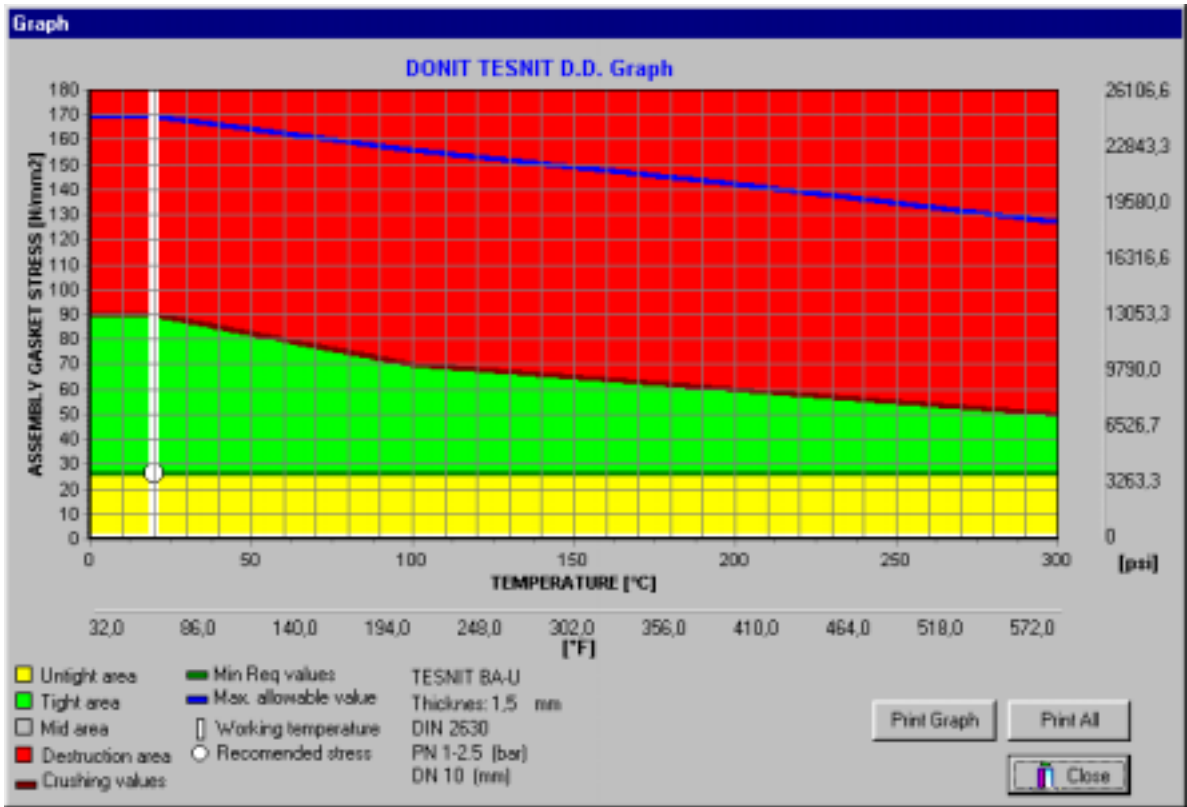


Figure 13: FSA assembly evaluation graph dialog

3 Technical Service Support

3.1 Getting Product Support Worldwide

If you have a question concerning our TESNIT sealing materials & gaskets, first check the DONIT TESNIT d.d. Technical documentation and other printed information describing our TESNIT sealing products.

If you cannot find a solution, you can receive a required information concerning our product by contacting the DONIT TESNIT d.d. Technical Service, agent or buyer that serves your country.

3.2 DONIT TESNIT d.d. Technical Service Support

DONIT TESNIT d.d. Technical Service, where available, offers you a wide range of choices and access to high-quality, responsive technical support. DONIT TESNIT d.d. recognizes that support needs vary from user to user so DONIT TESNIT d.d. Technical Service consults the optimum type of support that best meets your needs, with options ranging from different Technical Information to this DONIT TESNIT d.d. computer program.

3.3 Calling a DONIT TESNIT d.d.

When you call, you should have the DONIT TESNIT d.d. documentation at hand. Be prepared to give the following information:

1. A description of what happened and what you were doing when the problem occurred.
2. A description of how you tried to solve the problem.
3. Additional answers to the questions prepared in our questionnaire.

To call or to fax DONIT TESNIT d.d. Technical Service Support Worldwide

DONIT TESNIT d.d. Headquarters and production

Cesta Komandanta Staneta 38

SI 1215 MEDVODE

Slovenia Europe

Tel. +386 (0)1 582 32 00

Fax +386 (0)1 582 32 06, +386 (0)1 582 32 08

E-mail: info@donittesnit.si

Tlx. 31 365 DONIT SI

Technical Questionnaire

Company:

Address:

Department:

Tel.:

Fax:

Contact person:

Date / Signature:

Exact description of gasket location:

Application:

Environmental data:

Working medium: Concentration:

Working pressure: normal: max.:

Testing pressure:

Working temperature: normal: max.:

Testing temperature:

Flange:

Flange type: (DIN, ANSI, Non-standard,..)

Flange material:

Flange surface machining:

finish:

max. roughness:

max. unevenness:

Bolts:

dimension:

class of bolts:

number:

torque:

Gasket design used so far:

Gasket material:

thickness:

Gasket surface stress:

torque:

Special remarks (eyelet, etc.):

Are you satisfied with gaskets used so far?

Complaints:

DONIT TESNIT d.d. - Technical Services

Cesta Komandanta Staneta 38

SI 1215 MEDVODE

Slovenija

Europe

Tel. +386 (0)1 582 32 00

Fax. +386 (0)1 582 32 06

+386 (0)1 582 32 08

E-mail: info@donittesnit.si

WWW: <http://www.donittesnit.si>

