EUROCODES
SPREADSHEETS
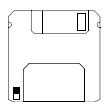**Structural Design**
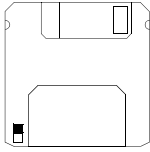
Carlo Sigmund

March 2018

User's Guide
to Excel® spreadsheet file
Verification tests

F. A. Clignett Photography Delft - Copyright© 2006

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Carlo Sigmund

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Sigmund, Carlo <1971->

Eurocodes - Structural Design

The sponsoring editor for this document and the production supervisor was Carlo Sigmund.

Electronic mail: carlo.sigmund@sigmundcarlo.net

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Have not been able to contact the owner of the photograph to give full consent to the publication. The author is at the disposal of the beneficiaries.

Bridge: Erasmus Bridge
Location: Rotterdam, Netherlands
Length/ main span: 802 m/284 m
Pylon: 139 m
Designer: Architects Ben van Berkel, Freek Loos, UN Studio.

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Contents

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Section 1 User Guide to Excel® Spreadsheet files

1.1 Prerequisites

First of all, you should have a working knowledge of your computer and its operating conventions. At a minimum, you should know how to use the mouse and pull-down menus, and how to open and close files.

If you need to review these techniques, please see the documentation that comes with your system, or ask your system administrator for help.

1.2 Requirements and system recommendations

Before you begin using *EUROCODES Spreadsheets Structural Design,* make sure that your system is set up correctly and that you have installed the required software and hardware.

You must have Microsoft® Office Professional 2003 (with Windows XP SP3) or higher installed on your computer. No additional data disks are required. The Microsoft Excel User's Guide, particularly, covers every feature of our spreadsheets.

Obviously, you must have an internet connection. Your installation must include the following applications, which come with Microsoft Office:

— Excel (32-bit or 64-bit version).

⚠ The Excel spreadsheets do automatically the calculations providing macros have not been switched off.

> ⚠ ```
> Office 2007/2010/2013/2016 - ActiveX Settings - enabling
> all controls without restrictions and without prompting.
> ```

ActiveX controls are small building blocks that create applications that work over the Internet through Web browsers. Examples include customized applications for collecting data, viewing certain kinds of files, and displaying animation.

Common uses of ActiveX controls are command buttons, list boxes, and dialog boxes. Office programs also let you use ActiveX controls to improve some documents.

Please note that the spreadsheets will not necessarily work with previous versions of Excel (e.g. '95, 5.x etc) or other spreadsheet programs. This is due to incompatibility between software and backward incompatibility between versions.

Note   Those not familiar with Excel are directed to the Help functions within Excel and relevant literature available at book and computer shops.

If you discover that you are missing any necessary files, either use your original Microsoft Office installation disks or CD-ROM to install them, or ask your system administrator for help.

1.3 Microsoft Office (32-bit or 64-bit version)

By default, Microsoft Office installs the 32-bit version of Office even if your computer is running 64-bit editions of Windows. The 32-bit version of Office is the recommended option for most people, because it prevents potential compatibility issues with other 32-bit applications, specifically third-party add-ins that are available only for 32-bit operating systems.

Our spreadsheets are compatible with both 32- and 64-bit versions of Microsoft® Office®.

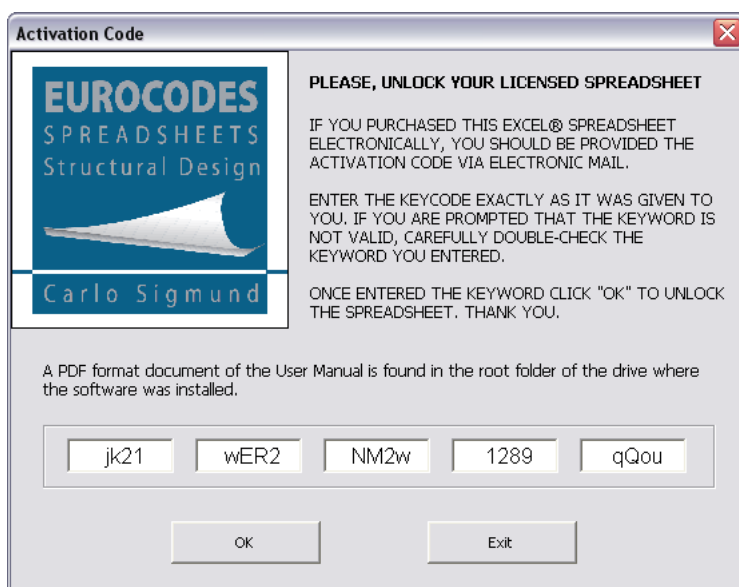## 1.4 Commercial and registered spreadsheets version

Enclosed with the software our customers will receive:
- an invoice/receipt (in electronic format)
- a registration/activation code to download, lock/unlock the spreadsheets and check updates
- an "e-mail address" (technical support)
- technical documentation in electronic format (.pdf)
- License Agreement (in electronic format).

http://www.sigmundcarlo.net/Eurocodes_Spreadsheets/LICENSE_AGREEMENT.txt

1.5 Registration/activation code

The registration/activation code is based on the "*Name*", "*Organisation*", "*City*" and "*Postcode*" you supply via internet in the field of the register application.

You can protect again your spreadsheet by clicking on the "Enter Keyword" button and then on the "OK" button without typing anything.

Figure 1.1   «Activation code» form active. Keyword entered: jk21-wER2-NM2w-1289-qQou.

The activation code is needed for the customer registration and is required to download your customized copy of the software and any future updates from this web address:

http://eurocodespreadsheets.jimdo.com/updates/

where you will find further instructions.

1.6 Before you begin

One of the most practical habits you can develop is to make a backup copy and to save your files often. When you save a file, you ensure that it remains stored in your computer even if there is a power failure or system crash. To avoid the frustration of wasting your time, save your work regularly. Save spreadsheets to a directory and/or folder of your choice. This is particularly true where spreadsheets pertaining to a particular project are saved to a folder given the project's name. Before you begin, a backup copy on a CD-ROM is recommended to avoid using corrupted or bespoke files. If you make any mistake, start again from the base version of the spreadsheet you made on the CD-ROM. The Microsoft Excel application should be running before you start your work. When loading the individual spreadsheets, Excel may warn you about the presence of macros. It is strongly suggested that you turn the macros on ("enable macros"). All the macros provided in the files are either to lunch the Solver and to allow automated printing/saving of the calculations or to provide choices by way of combo-boxes.

1.7 EUROCODES Spreadsheets layout

1.7.1 General

EUROCODES Spreadhseets have their own layout. See the screen dump below:
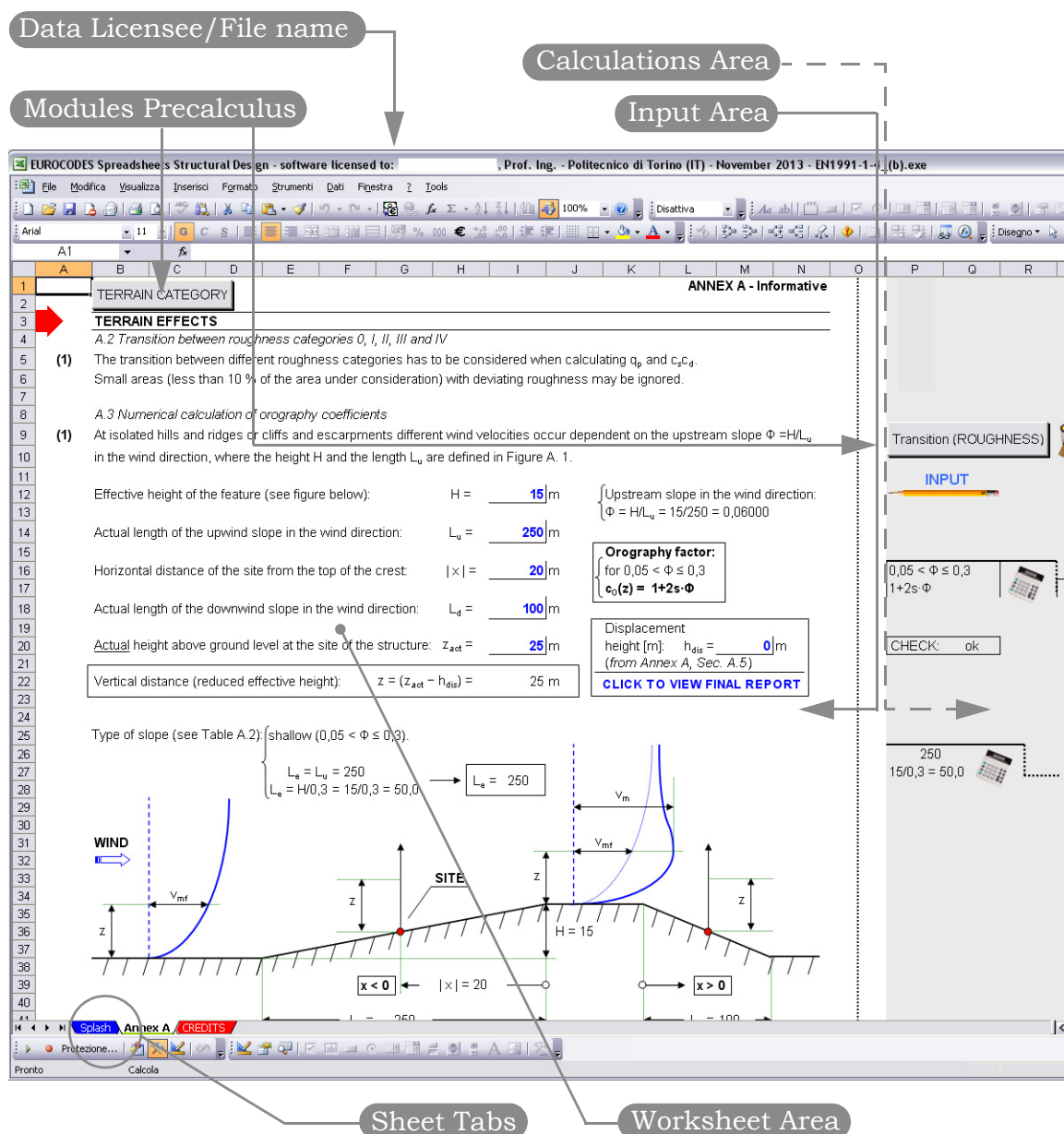

Figure 1.2   Spreadsheets layout.

Input cells are in blue and are underlined (so they can be recognised in black and white versions).

The sheet's name on the sheet tab gives an indication of the content or the section of the standard to which it refers. Further sheets (hidden) may contain analysis calculations, data for graphs and calculation. These sheet are not considered vital to understanding the calculation.

The calculations are intended to mimic hand-written calculations and the steps of the calculation are as explicit as possible. The following screen dump gives an example:
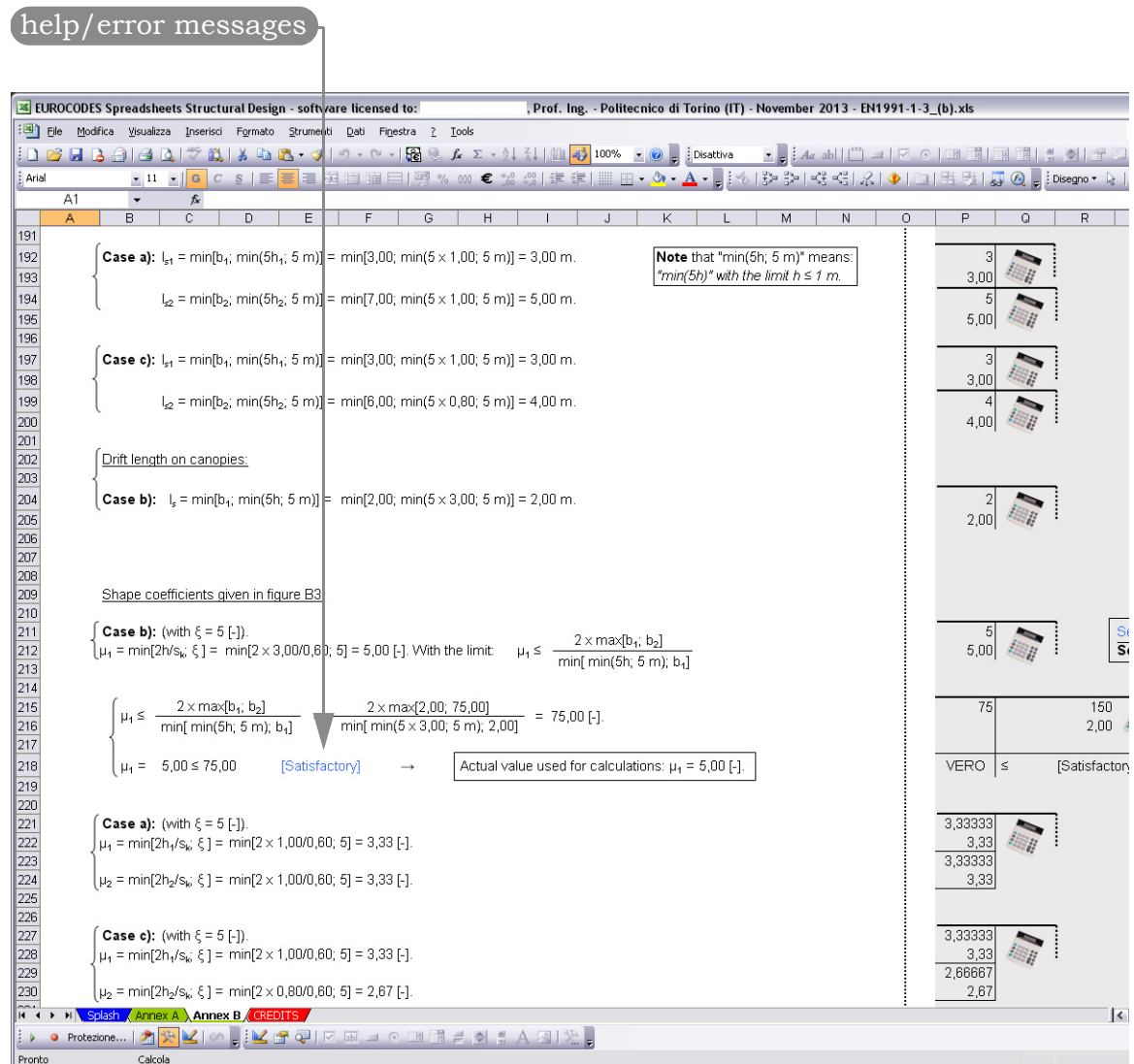

Figure 1.3   Spreadsheet layout.

The cells under the "Input Area" contain help (blue) and error (red) messages that are intended to help the user with the correct input and operation of the spreadsheet. To avoid complications, links between different spreadsheets have not been used.
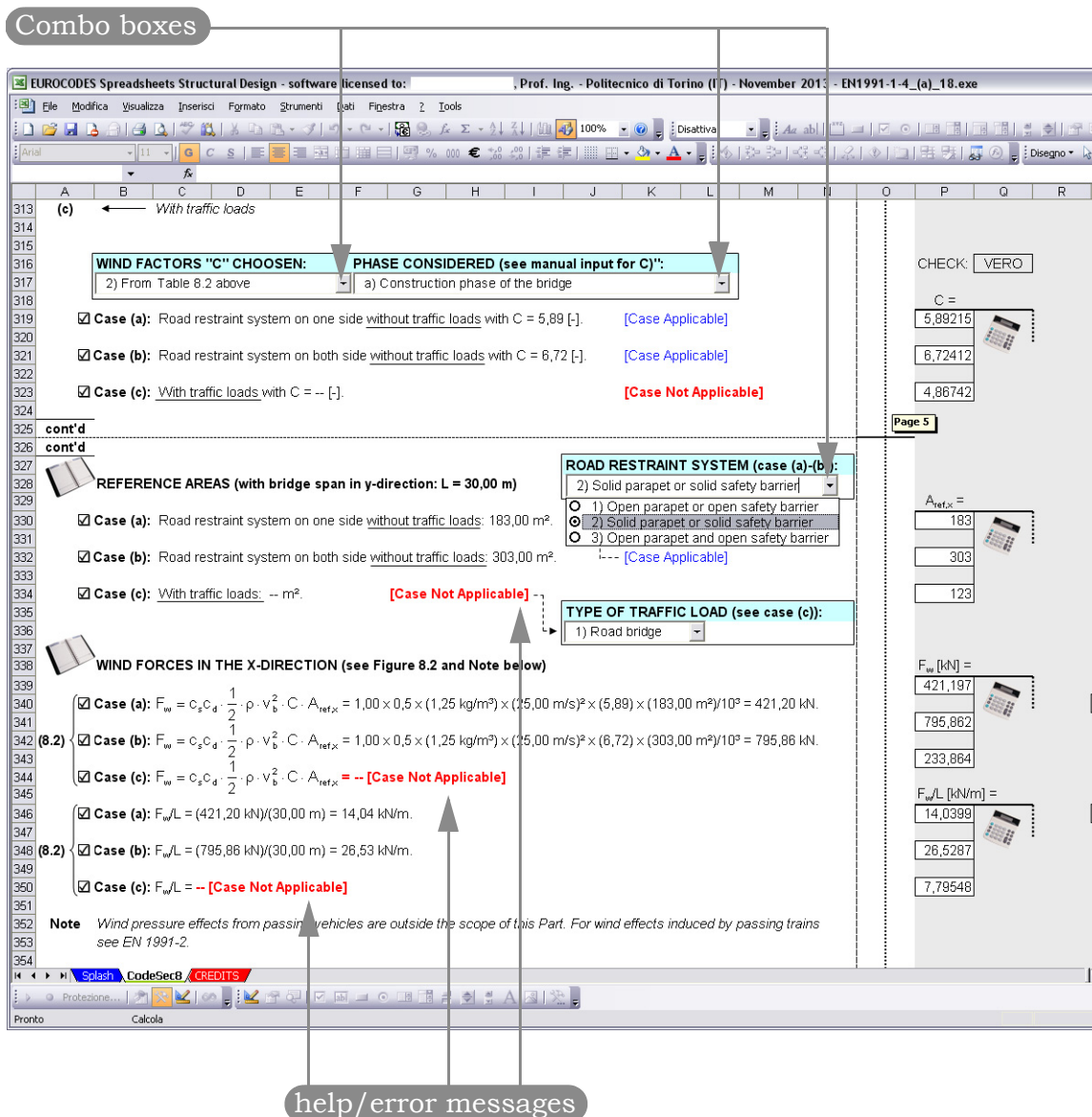
Figure 1.4   Spreadsheet layout.

The results of one spreadsheet can be used to become the input for another. These must be done manually.

The cells present in the "Calculation Area" also contain various checks and combo-boxes used for automated choices. The above screen dump gives an example:

1.7.2 Splash

The Spash sheet (white and blue sheet tab) shows the Logo and some information about the file in use. The disclaimer and status as well as the
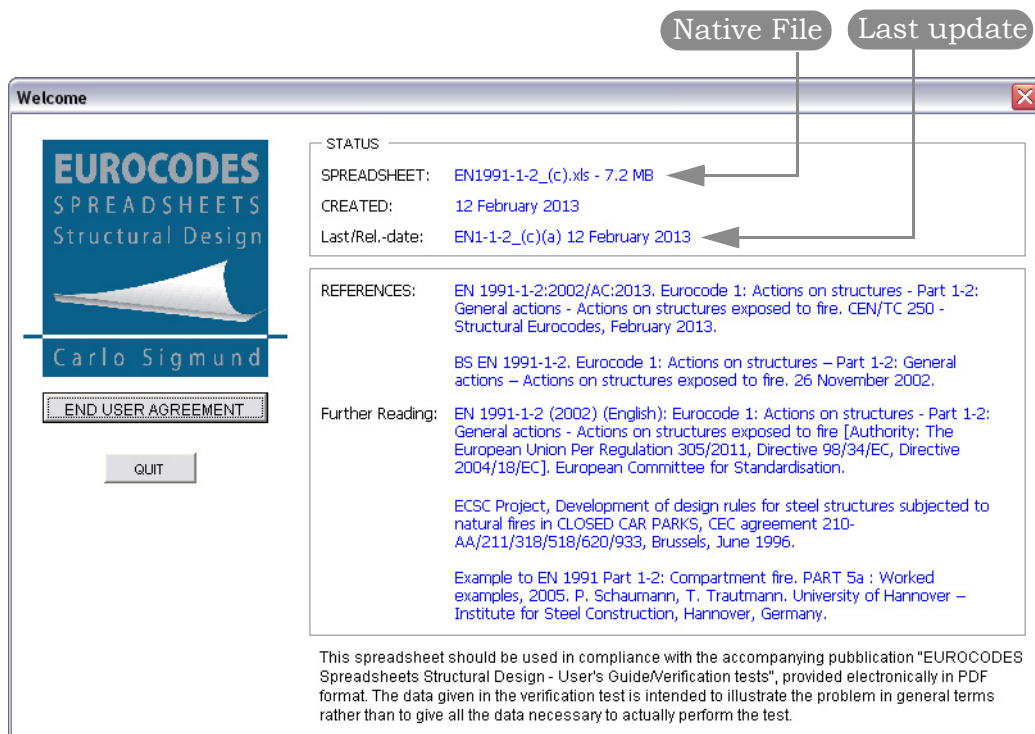
Figure 1.5   Example of Welcome screen.

references and further reading of each spreadsheet should be read and understood by clicking on the Logo in the upper left of the sheet "Splash". By clicking on the logo appears the Welcome screen. In any case, the User is free to ignore the sheet "Splash" which is attached as a simple reminder.

1.7.3 CREDITS

The sheet CREDITS (last tab sheet) is only for customers! This is our way to thank all our customers for any advice and bug reports in our spreadsheets. Both the sheet "CREDITS" that the file to which it relates will be updated. Hence, the updated .EXE file will be downloadable (free of charge as update) by those who can provide their own valid registration/validation code.

Figure 1.6   CREDITS sheet.

1.8 EUROCODES Spreadsheets Structural Design - Verification tests

The spreadsheets have been developed with the goal of carry out fast calculations according to the Eurocodes (EN). The spreadsheets have been produced to cater for both first-time users and the very experienced. The spreadsheets will be issued with publications (provided electronically in the PDF format) covering their use, complete with model designs and verification tests. The data given in the "problem sketch" of each test is intended to illustrate the problem in general terms rather than to give all the data necessary to actually perform the test. The verification tests-results given in the publications were obtained using Microsoft® Office Excel 2003 (11.5612.5606), which comes with Microsoft Office Professional Edition 2003.

1.9 Technical Support

Queries should be e-mailed to our "e-mail address" to require technical support

service.soft.sigmund@sigmundcarlo.net

highlighting the registration data of the Licensee. E-mailed questions, comments, developments and suggestions are welcomed. We regret that telephone enquiries cannot be dealt with.

1.10 Production Notes

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1.11 Last but not least

Even though our software is easy to use, we recommend looking over the Microsoft Office User's Guide. The Microsoft Excel User's Guide, particularly, covers every feature of our spreadsheets. We are sure you will not miss the opportunity of trying our software and we look forward to receiving a positive reply from you. We value your opinion highly. If you have comments/suggestions or should you need any further information, please feel free to contact us via any address listed below.

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INTERNET:            http://www.sigmundcarlo.net
ELECTRONIC MAIL:     info.soft.sigmund@sigmundcarlo.net  (General Information)
                     service.soft.sigmund@sigmundcarlo.net  (Customer Service & Sales)
MAIL:                Dott. Ing.  Carlo Sigmund - Sole trader
                     Via I Maggio, 28/3
                     33017 Tarcento - Udine - Italy
========================================================
```