GMG

DE CE

Operating Manual

GMG-Vision software for evaluation and logging of sliding
friction measurements

GMG-Vision - Software for evaluation and logging of sliding friction measurements

Document version: 310-2310-004 EN11
– Translation from German –

Manufacturer and publisher:
GTE Industrieelektronik GmbH
Helmholtzstr. 21, 38-40
41747 Viersen
Germany

Support-Hotline: +49 2162 3703-0
E-Mail: info@gte.de

Brief Description

The GMG-Vision software ensures convenient data transfer, evaluation and documentation of measurements with the GMG series of sliding friction measurement devices. The Windows-based GMG-Vision software visualizes, logs and archives the measurement data of the GMG sliding friction gauges. Via an interface, the measurement results can be transferred to a PC or notebook at the click of a mouse. The data can be saved and stored together with project-specific data, e.g. inspector, customer, floor properties, etc. The coefficient of sliding friction is calculated on the basis of the standard selected. The user can call up the exact curve of each individual test run, visualize it graphically and evaluate the measurement. Different projects can be created, e.g. for different test objects.

In addition, the software assists in the creation of a standard-compliant measurement report, which can be output as a Word document or printed. It is possible to store company data and company logo and thus to individualize the measurement reports.

Table of Content

1   About this Manual

This manual describes operation of the software GMG-Vision for evaluation and logging of sliding friction measurements with a GMG series dynamic friction measuring device.

Carefully and thoroughly read this document to be used to become familiar with the product before using it. To prevent injury and damage to the product, pay particular attention to the safety notes in this document. Pass the documentation along to later users of the product.

1.1   Meaning of Symbols

To ensure the best possible comprehensibility, this manual uses a consistent structure. The following symbols are used.

Action objectives

Action objectives describe the result to be achieved by the subsequent action instructions. Action objectives are shown in **bold**.

Symbol	Explanation
▶	Precedes an instruction
1.... **2** **3**	Step-by-step instructions. The instructions are numbered in the order of the respective steps.
⇨	Results of steps
●	List with no specific order

Notes used

This manual uses the following note type:

i | **Tips and recommendations**
This type of note provides information that is directly relevant for further operation of the software.

1.2   Storing the Manual

Keep this documentation nearby to serve as a reference when needed.

2   Safety Instructions

The software is used to evaluate the sliding friction measurements recorded by the GMG devices. Operating instructions are available for each GMG measuring device and must be read by the operator.

The operator is the person who operates the measuring system himself for commercial or economic purposes or for research purposes or who makes it available to a third party for use/ application and who bears the legal product responsibility for the protection of personnel or third parties during operation.

The measurement system is intended for use in commercial or public areas. The operator is therefore subject to the legal obligations for occupational safety and safety in the public sector.

In addition to the safety instructions in this manual and to the operating manual of the GMG device, the regulations for safety, occupational health and safety as well as for environmental protection, applicable at the place of use of the measurement system, must be observed.

3   Scope of Delivery

GMG-Vision is offered as an accessory to the GMG series of sliding friction meters.

4   Hardware Requirements

- GMG with accessories
- Adapter USB to RS232
- PC or Laptop

5   System Requirements

- Pentium 4M (or equivalent)
- Windows 10
- 1 GB RAM
- 1 GB free memory
- Driver for the adapter USB to RS232 for older devices. For newer devices with USB connection, the driver is automatically installed by the software.
- MS Word is required for the protocol data sheets, at least version 2010.

6   Licensing

The software is available for a system for sliding friction measurement operated with one of our GMG measuring devices. For further measuring systems or individual devices additional software must be purchased. The software can be used on three different computers, but not simultaneously.
Any updates due to product improvements are usually free of charge. Adjustments due to normative changes may be subject to a charge in individual cases.

Starting the GMG-Vision software for the first time, you have to choose between a demo version and a full version.

6.1 Demo Version

You can test the software with full functionality in a demo version. This can be used free of charge for 14 days. To activate the demo version, you only need to provide a valid e-mail address and an Internet connection. The demo version can only be activated online.

6.2 Full Version

Activation is possible both online and offline. Please visit our activation homepage at https://offlinelizenzierung.gte.de.

Online Activation:
Online please fill in the form for activation with your data, especially enter your valid e-mail address and the license key.

Offline Activation:
In the "Software Licensing" window, the license key and activation key are requested. The license key is assigned with the software purchase. You must generate the activation key individually for your computer.
To do this, visit our activation homepage via URL or via a QR code. Both are indicated on the start page for licensing.

7 Installation

▶ **Install GMG-Vision**

1 Download the GMG Vision installer from the download section of our website.
2 Unzip the zip file to a temporary folder.
3 Run the EXE file.

8 Updates

GMG-Vision is continuously updated. We advise you to update regularly so that you can always carry out your measurements and evaluations according to the latest status.
Let the software automatically check for updates at every start or run the update manually.

▶ **Set up automatic update**

1 Open the "Options" menu item on the start screen.
2 In the "General" section, place a check mark next to "Check for updates at start".
3 Save the setting via the "Save" button.

▶ **Perform manual update**

1 Open the "Options" menu item on the start screen.

⇨ The "Settings of your GMG-Vision software" window opens.

2 In the "General" area, click the "Search now" button.

⇨ A window opens that displays the versions.

3 Click the "Update" button there.

i **Tips and recommendations**
Using the "Download" button you can also download the installer and install the software manually on your PC after unpacking it.

9 Connect GMG

▶ **Connect measurement device**

1 Connect the GMG.

2 Switch on the GMG.

⇨ The GMG is ready for operation and measurements can be transferred to the GMG-Vision software.

i **Tips and recommendations**
Measurement data can only be transferred if the GMG is connected to the PC or laptop via the RS232 interface and the device must be switched on.

10 Start GMG-Vision

▶ **Start the software:**

Click the "GMG-Vision" icon on your desktop. Alternatively, you can reach GMG-Vision via the Windows Start menu.

⇨ The start screen opens.

11   General Operating Instructions

Window menue	You can minimize the windows, display them in full screen mode or close them via the window operating menu. You will be asked if changes should be saved when closing the project window.
Buttons	Clicking the "Cancel" or "Save" buttons closes the window without saving the changes (Cancel) or with saving the changes (Save).
Keyboard input	Entries can also be changed via the keyboard: • <Strg>+<z> undo • <Strg>+<y> restore
Drag & Drop	You can copy measurements from one project to another with the mouse using drag & drop if you have opened the respective project windows. If you want to move data, you must explicitly delete the original data after copying. The data is basically copied and stored again in another place.

| The following icons are available for operating the GMG-Vision software:		
Symbol	Keyword	Description
	Save project	The project with all stored data and measurements is saved.
	Undo / restore	• Arrow to the left: undo last action • Arrow to the right: restore
	Open databases (magnifying glass)	The magnifying glass opens a database based on the context: • Contact data of inspectors • Contact data of customers • Floor information
	Open project	Opens an existing project: • The Windows folder with the projects opens in the project window. • Select a project file, confirm with ok.
	New project	Opens the window for creating a new project.
	Options	Opens the "Options" window to carry out settings in the GMG Vision software.

	Instruction	Opens a PDF with the current manual for the GMG-Vision software.
	Project window of measurement	Displays the project with the name listed behind it.
	Test basis	Leads to the window where the test basis (norm or standard) can be selected.
	Inspector	Opens the window with the inspector's contact data. Behind it you can find the database in case of several inspectors, if available (see "Open databases (magnifying glass)").
	Customer data	Opens the window with the customer's data. Behind it you can find the database of several customers, if available (see "Open databases (magnifying glass)").
	Floor information	Opens the window with the data about the tested floor. Behind it you can find the database of several floors, if available (see "Open databases (magnifying glass)").
	Evaluation	Opens the window "Evaluation" with the possibilities of evaluation and comments.
	Open measurements	Opens the "Measurements" area, here you can view stored measurements.
	Import measurements	Starts the data import.
	Pictures	Images can be stored in this area.
	Add picture	Starts the file import of image material.
	Protocols	Opens the area with the filed test protocols.
	Create Protocols	Creates a protocol.

START SCREEN
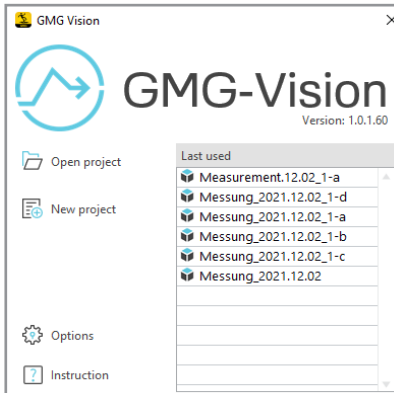
12   Start Screen

Via the start screen you can:

- open a project,
- create a new project,
- choose options and settings,
- read this manual as in PDF.

The "Last used" drop-down list contains pro-jects that have already been opened.

Open a measurement by clicking on the list entry.

12.1   Open Project
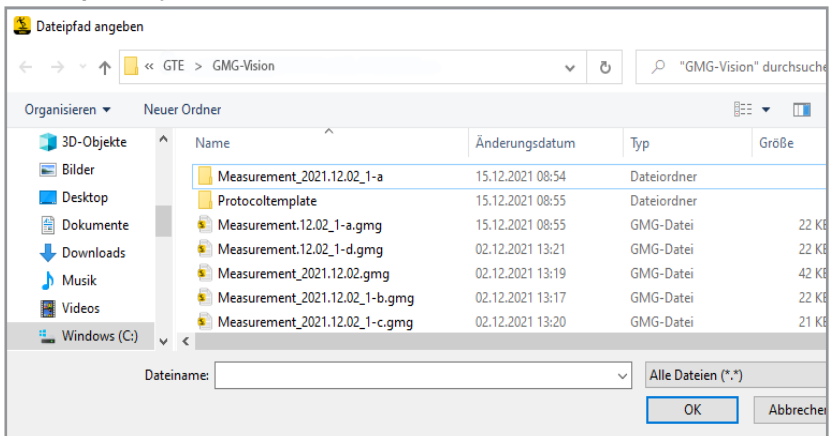
▶   **Open a project**

1   Click on "Open project". Alternatively, you can click directly on the desired project in the "Last used" list.

⇨   The Windows-Window „Specify file path" opens.

2   Select a file and press "OK"

⇨   Project opens.

310-2310-004 EN11   11

12.2   Create a Project

▶   **Create a new project**

1   Click on „New project".

⇨   The Windows window "Select project save path" opens. The file name "Date.gmg" is automatically suggested. Alternatively, you can overwrite the file name individually.
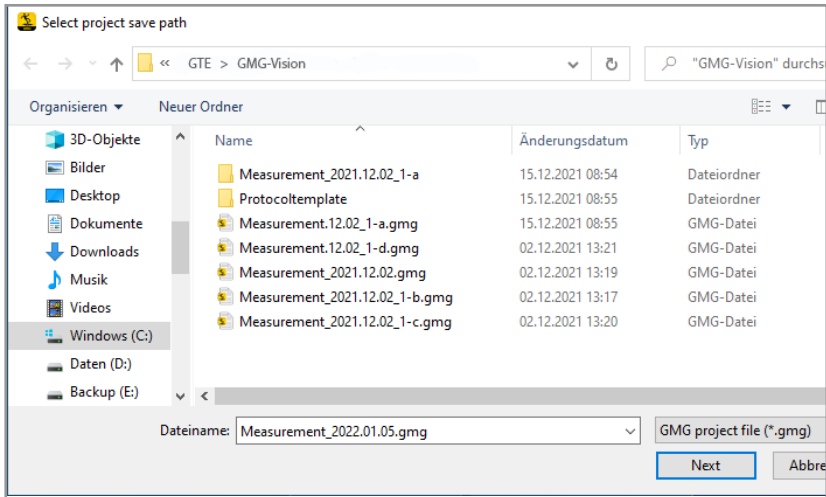
2   If desired, overwrite the automatically generated file name with your individual file name and confirm with "next".
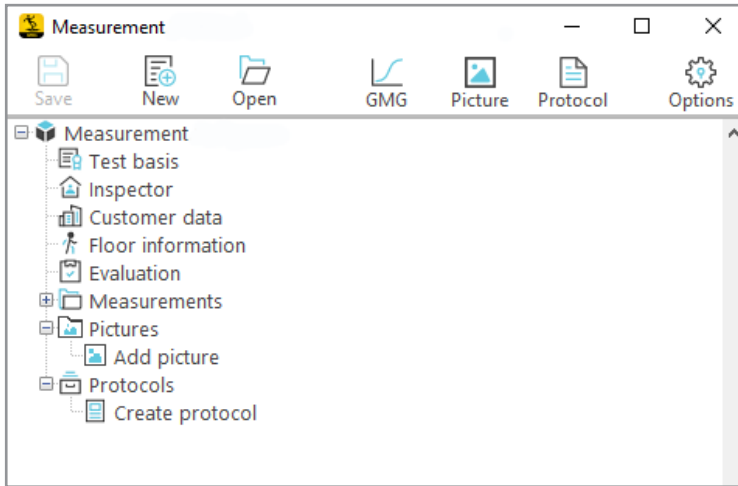
⇨   The project opens.

ℹ️   **Tips and recommendations**
If you have not selected the test basis in your software presettings "Options", the "Test basis" window opens. Otherwise it will be skipped, see "13.1. Test Basis" and "14. Settings in the Options".

13   Project

In the project, all necessary details about the measurements on an object are stored. The detailed information includes:

- Test basis
- Inspector
- Customer date
- Floor information
- Evaluation
- Measurements
- Pictures
- Protocols

The upper menu bar comprises the essential functions of the GMG Vision software. You can initiate the following actions from there using the icons in the menu bar:

- create new projects
- open existing projects
- view measurements and their detailed results
- upload image and photo material
- create test protocols
- customize options

13.1 Test Basis

▶ **Specify the test basis.**

1 By clicking on the "Test basis" line in the project window, you can select the desired standard.

i **Tips and recommendations**
For frequent measurements according to a constantly recurring test basis, the default setting can already be made in the "Options". Otherwise, the test basis is first queried for each newly created project, see section "Options".

13.2 Inspector

▶ **Enter the data of the inspector.**

1 Click on the "Inspector" line and enter the data of the inspecting person in the "Inspector" window.

2 If necessary, set the person as the default inspector.

i **Tips and recommendations**
With the magnifying glass button you can open the respective database, see chapter "General operating instructions".

13.3 Customer Data

▶ **Enter the data of the customer**

1 By clicking on the "Customer data" line, enter the necessary data of your customer in the window that opens.

13.4 Floor information

▶ **Enter all the required information about the floor.**

1 Click on the "Floor information" line to open the window for floor information.

2 Enter the required information about the nature of the floor such as construction type, material, manufacturer, etc.

13.5 Evaluation

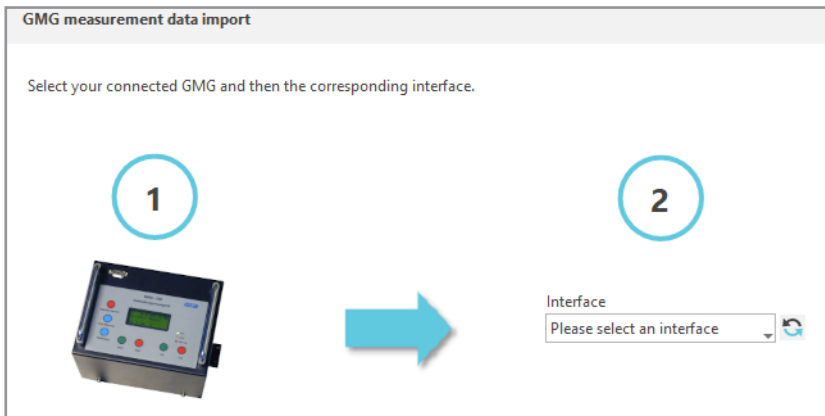▶ **Evaluate and comment on the project if necessary.**

1 Click on the "Evaluation" line to open the corresponding window.

2 You can enter your evaluation in the selection field and add a comment.

13.6 Measurements

13.6.1 Transfer of Measurements

▶ **Start the data import.**

1 Check whether the measurement device is connected to the RS232 line.

2 Switch on the device.

3 Press the "Measurement" button in the upper menu field. If no measurement is stored in the project yet, you can also click on the "Import measurements from GMG" line.

⇨ The "GMG measurement data import" opens.

4 Select the interface.

⇨ After a GMG has been detected at the selected interface, the view changes.
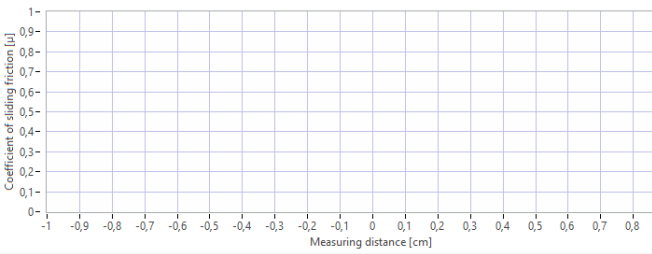
⇨ All measurements available in the GMG are listed on the left side.

5 Select the measurements you want to add/import to your project.

6 Press the "Import" button.

⇨ The measurements will be imported.

In the project window, they are displayed in sequence under "Measurements".

The software automatically recognizes the serial number of the device, the slider material and the last calibration date during the data import. It sets the current date, unless you change the measurement date individually via the calendar function.

Tips and recommendations
To view individual measurements, you can also click directly on the lettering of the measurement.

13.6.2   Display Measurements

Each measurement represents a series of measurements and, according to the standard, usually consists of five scans (individual measurement runs), which are displayed in different colors. You can display the measurement runs, the associated coefficients of sliding friction and the mean value from three representative measurements.
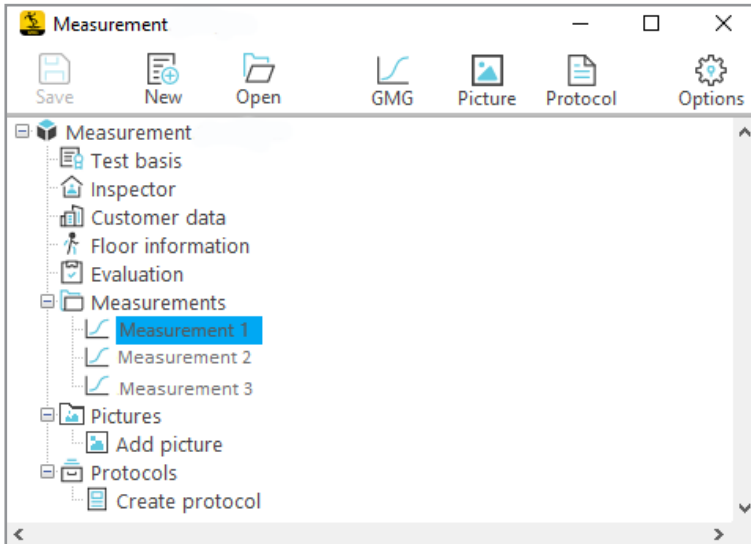
▶   **Display a measurement**

1   Click on the individual measurement in the project window.

⇨   The display of the measurements opens

13.6.3 Measurement Display
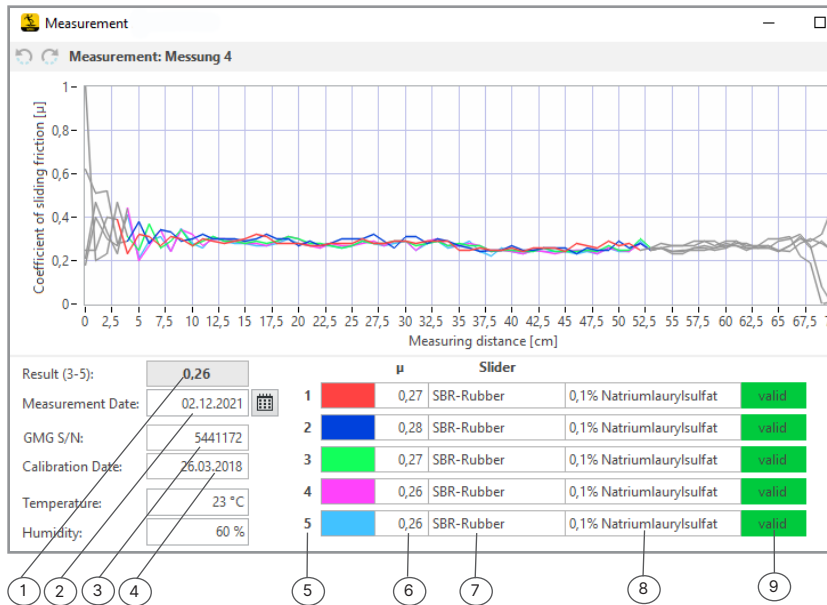
All curve progressions of all scans of a measurement are displayed. In addition, the following results and further measurement data are output:

1) Mean value of sliding friction coefficient μ from three individual measurements
2) Measurement date
3) Serial number of the GMG device
4) Calibration date
5) Scan number
6) Calculated coefficient of sliding friction of the single scan
7) Slider material
8) Lubricant
9) Validity of the measurement

(Temperature and humidity can be entered)

▶ **Display a single Scan**

1 Move the mouse over the digit of the scan in the display of measurements.
2 Then click on the sandwich menu that appears.

⇨ The single scan is displayed.

13.6.4 Display of a Single Scan
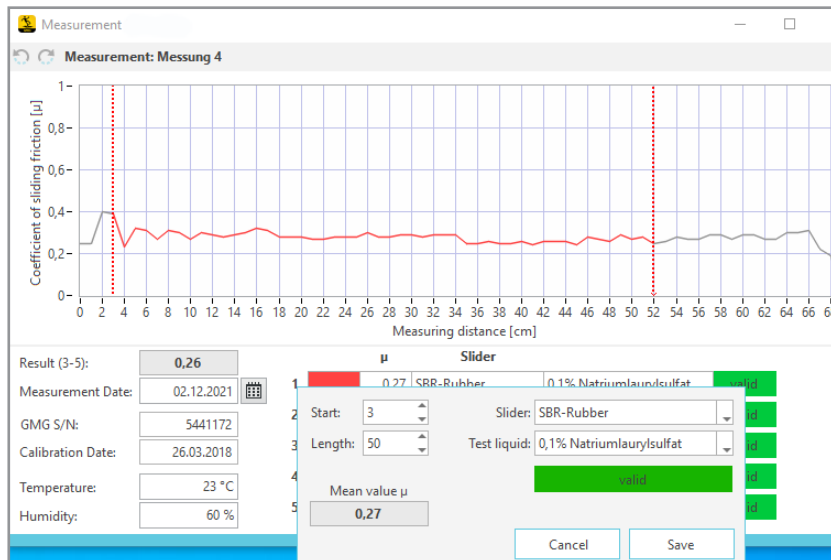
> **Tips and recommendations**
> In the display of the single scan, you can specify the measuring range for the evaluation individually and select the slider material, if desired.

13.7 Pictures

Extend projects with image and photo material, which is then also output in the inspection protocol. For example, you can record the test situation or the situation on site.

▶ **Deposit photos and image material**

1   Open the project.

2   Open the "Pictures" section.

3   Click on „Add picture".
    Alternatively, images can also be imported via the top menu bar by clicking the "Image" button.

⇨   The "Specify file path" window opens.

4   Upload your files.

13.8 Protocols

▶ **Create protocols**

1 Activate the "Protocol" field in the menu bar or click on "Create protocol".

⇨ GMG-Vision generates the test protocol in the form of a Word document.

⇨ The measurement protocol is listed under "Protocols" in the project window.

i **Tips and recommendations**
The protocol contains all the data stored in the project: the test basis, the measurements with the curves and the evaluation of the coefficient of sliding friction, and the picture material.

i **Tips and recommendations**
The Word document can be reopened at any time and, for example, printed, shared or forwarded.

i **Tips and recommendations**
In case of additions it is possible to generate further test protocols.

13.9 Save

▶ **Save your project.**

1 Click the "Save" button in the upper menu bar.

⇨ The project will be saved with its data in a subdirectory of the directory you specified in the options.

14 Settings in the Options

▶ **Adjust your preferences via the "Options" field.**

You will find the "Options" icon
- on the start screen
- in the menu bar in the project window

⇨ The options window opens.

General

▶ Specify storage path

Select the desired storage path for your projects, if it should differ from the default settings.

▶ Choose language

Choose between German and English.

▶ Set test basis

Select the standard you require as the test basis.

The following are available for selection:
- ANSI NFSI B101.3-2012
- EN 13893:2002
- EN 16165:2021

i **Tips and recommendations**
The default setting of the test basis is helpful for frequent measurements according to the same test basis. The test basis is then no longer queried each time a new project is created.

▶ Uptdates

1 Check the box "Check for updates at start" if they want an update automatically at every restart.
2 Initiate an update by clicking the "Search now" button.

Protocol

▶ Create a protocol

1 Select the desired template for your protocol file in Word format in the protocol templates subdirectory.
2 Use the "Customize" and "Reset" buttons to set up the log file individually, e.g. with your company logo and your own letterhead.

i

Tips and recommendations
Save a protocol template in a file. You can create several different template files.

Templates for your protocol file

GMG-Vision uses text marks, which can be arranged individually by the user in the Word template. The following text marks are available:

For labels:

TM_Protocol_Title: Test protocol tribometer test
TM_according_to_standard: tribometer test according to:
TM_Customer: client
TM_Auditor: inspector
TM_Ground_information: measurement surface
TM_GMG_information: measurement equipment
TM_Measurement: measurement
TM_Evaluation: evaluation
TM_Signature_Name: inspector
TM_Signature_date: date
TM_Signature_space: (signature)

For inputs and measurement results:

VA_Protocol_Name: name of the project
VA_Customer: customer data
VA_Auditor: data of the inspector
VA_Ground_information: data about the testet floor
VA_GMG_information: data abaout the GMG
VA_Measurement: data of the measurements
VA_Evaluation: notes on the test result
VA_Eval_Status: test result
VA_Signature_Name: signature of the inspectors name
VA_Signature_date: date of signature
VA_Listofmeasurments: detailed data of the measurements
VA_Listofpictures: pictures for the test protocol

Feedback	▶	**Send your feedback and suctomisation requests to:** info@gte.de
Instructions	▶	**Clicking the "Instructions" button will take you to the installed instructions**
License	▶	**Under "License information" you can find everything about your license.**
		See also the chapter "Licensing".