General notes

This documentation contains information that must be applied if the product is to be used safely and efficiently.

Please read this documentation through carefully and familiarize yourself with the operation of the product before putting it to use. Keep this document to hand so that you can refer to it when necessary.

Identification

Representation	Meaning	Comments
 Warning!	Warning advice: Warning!	Read warning advice carefully and take the precautionary measures indicated! Serious physical injury could occur if you do not take the precautionary measures indicated.
 Caution!	Warning advice: Caution!	Read warning advice carefully and take the precautionary measures indicated! Slight physical injury or damage to equipment could occur if you do not take the precautionary measures indicated.
	Note	Offers helpful tips and information.

1. Safety instructions

This chapter gives general rules which must be followed and observed if the product is to be handled safely.

Avoiding personal injury/damage to equipment

- Do not use the measuring instrument and sensors to measure on or near live parts.
- Never store the measuring instrument/probe together with solvents and do not use any desiccants.

Product safety/preserving warranty claims

- Operate the product only within the parameters specified in the Technical data.
- Always use the product properly and for its intended purpose. Do not use force.
- Do not expose handles and feed lines to temperatures in excess of 70 °C unless they are expressly permitted for higher temperatures. Temperatures given on probes/sensors relate only to the measuring range of the sensors.
- Open the product only when this is expressly described in the documentation for maintenance and repair purposes.
  Carry out only the maintenance and repair work that is described in the documentation. Follow the prescribed steps when doing so. For safety reasons, use only original spare parts from testo.

Ensure correct disposal

- Send the product back to testo at the end of its useful life. We will ensure that it is disposed of in an environmentally friendly manner.

2. Intended purpose

Use the product only for those applications for which it was designed. Ask testo if you are in any doubt.

The product was designed for the following tasks/applications:

- Fast and non-destructive evaluation of material moisture courses in woods and building materials.

Does not replace reference methods such as CM method or Darr-Wäge (dry-and-weigh) method.

The probe is not calibratable.

- For connection to testo 635-1 (Art.-no. 0560 6351) and testo 635-2 (Art.-no. 0560 6352).

The product must not be used in the following areas:

- Areas at risk of explosion.

Materials subject to electrical voltage.

Electric shock!

- If in doubt, check whether the materials are energized before the measurement (e.g. in the event of water damage in walls)

3. Product description

3.1 Overview

Overview

① Contact plates
② Handle
③ Connection cable

3.2 Humidity measurement procedure

The non-destructive stray field measurement uses the ability of water molecules to dampen and thus change electromagnetic fields. The electric field penetrates the material via the contact plates and creates a measuring field with a depth of approx. 5 cm.

The following factors can influence the measurement result:

Factors	Ideal condition
Measurement depth	Material thickness > 5 cm (> 2“). Caution: The upper layers of the material influence the measurement result more than the deeper layers.
Material surface	As level as possible as contact plates should lay flat against it.
Material properties	As homogeneous as possible with no air pockets.
Moisture distribution	As even as possible.
Metals and electric fields	None, if possible.

4. Measuring

➢ Taking a measurement:

✓ The instrument is switched on and is in measurement view.

✓ The correct material was selected in the instrument, see instruction manual for the measuring instrument.

Selectable materials:

Display	Material
A.screed	Anhydrite screed
C.screed	Cement screed
Limestone	Limestone
Concrete	Concrete
I. brick	High-insulating brick
Sol. brick	Solid brick
Hwlumber	Hardwood lumber
Swlumber	Softwood lumber
Gas concr	Gas concrete
Chipboard	Chipboard
Service	Testing characteristic. Not for on-site measurements!

› Hold probe horizontal to contact surface. Slowly increase contact pressure to 1 to 3 kg (2.2 to 4.4lb) until a stable value is shown.

In order to be able to evaluate a moisture course, several measurements at different positions or at different times are necessary.

In drying processes, the displayed measurement values can in individual cases also be negative. This occurs as a result of the material composition and the different moisture gradients. When negative measurement values are displayed, the drying process is nearly finished, i.e., the more negative the values, the drier the material.

For better assessment of the contact pressure, the probe can initially be pressed against a scale.

5. Care and maintenance

➢ Cleaning the housing:

› Clean the housing with a moist cloth (soap suds) if it is dirty. Do not use aggressive cleaning agents or solvents!

➢ Changing contact plates:

The outer contact plates can be exchanged by the customer

› If necessary: Order exchange set via customer service.

6. Technical data

Characteristic	Values
Parameters	Water content in weight percent of dry mass
Measuring ranges	Woods: < 50 % Building materials: < 20 %
Resolution	0.1 %
Probe	Contact plate (integrated)
Measuring rate	0.5 s
Operating temperature	+5 to +40 °C (+41 to +104 °F) / 10 to 80 %RH
Storage temperature	-20 to +70 °C (-4 to +158 °F)
Protection class	IP30
EC Directive	2004/108/EC
Warranty	2 years (excepting wearing parts)

7. Tips and assistance

Typical values for equilibrium moisture (air dryness in building materials 1 and woods).

Material	Material moisture
Softwood lumber	9 ± 3 % by weight
Hardwood limber	9 ± 3 % by weight
Chipboard	< 8 % by weight
Cement screed	< 3 % by weight
Anhydrite screed	< 0,5 % by weight
Concrete	< 2,2 % by weight
Solid brick	< 1 % by weight
High insulating brick	< 2,5 % by weight
Limestone	< 1,3 % by weight
Gas concrete	< 5 % by weight

[1] In ambient conditions 20 °C and 65 %RH