

CONSTRUCTION AND TIMBER MOISTURE METER

AQUA-BOY  
DIGITAL  
DBM I



Moisture is never uniformly distributed through the interior or across the surface of a material. Marked differences will be found to exist in most cases. This makes it necessary to use different types of probes, hereinafter called **electrodes** and identified by reference numbers in accordance with the intended purpose.

All electrodes connect to the AQUA-BOY moisture meter by means of the Universal Measuring Cable No. 200 and, depending on the type of electrode, the Universal Electrode Holder No. 204.

**All two-pole electrodes must be applied along the grain.**



## Hammer electrode

with steel spikes and surface contact electrode. The steel spikes should preferably be used for hardwood.

**IMPORTANT: The surface contact electrodes on the head of the hammer electrode 203 b are not sturdy enough to withstand hammer or similar blows.**

Dimensions: approx.  
6¾" x 3¼" x 1¼" dia.  
(170x95x32 mm Ø)  
Weight: approx.  
21 oz (0,6 kg)  
Depth of penetration:  
approx: 19/32" (15 mm)

**Stock No. 203 b**

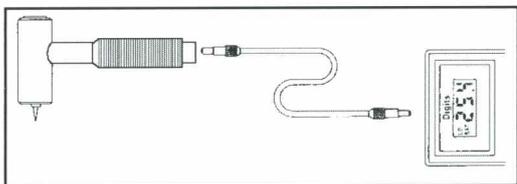
## Hammer electrode

with steel spike electrodes only. Preferably for use with construction materials.

**Instead of the surface contact electrodes, the hammer electrode 203 d have solid hammer heads permitting the hatchet edges or spikes to be driven into the wood over their entire length by means of a hammer.**

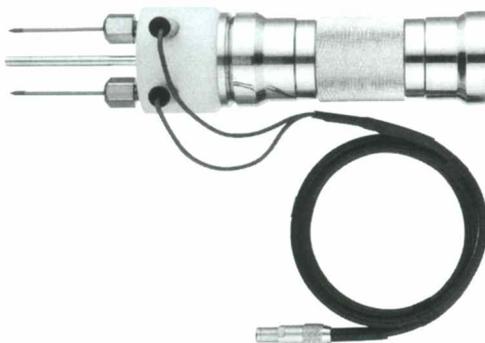
Dimensions: approx:  
6¾" x 3¾" x 1¼" dia.  
(170x95x32 mm Ø)  
Weight: approx.  
21 oz (0,6 kg)  
Depth of penetration:  
approx. 19/32" (15 mm)

**Stock No. 203 d**



## Connecting the Hammer electrodes

Insert one end of the universal measuring cable into the jack in the hammer electrode until it snaps into place.



## Ram-electrode

complete with connecting cable, for making moisture measurements at different depths in hardwood up to 5½" (135 mm) thick.

Dimensions: approx.  
9" x 2" dia  
(225 x 50 mm Ø)  
Weight: approx.  
3 lbs. (1,3 kg)  
**Stock No. 223**



## Universal measuring cable

The flexible universal measuring cable, which is equipped with identical snaplock plugs at both ends, is used for connecting the hammer electrodes, the compression-screw electrode and the universal electrode holder.

Length:  
approx. 40" (1m)  
Weight:  
approx. 2 oz (60 g)

**Stock No. 200**



## Universal electrode holder

Designed to accept all electrode heads as they are needed. To connect the holder to the moisture meter the universal measuring cable is needed.

Dimension: approx:  
6"x1¼" dia.  
(140x46 mm Ø)  
Weight: approx.  
3½ oz (100g)

**Stock No. 204**

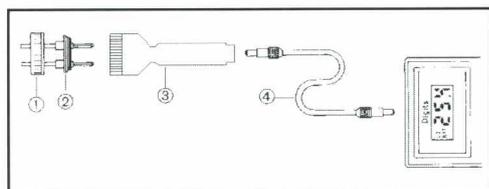


## Needle electrode head

Preferably for measuring expanded polystyrene and similar insulating materials

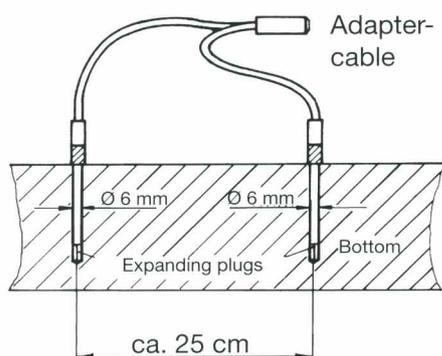
Needle length:  
approx. 4" (100 mm)  
Weight:  
approx. 1½ oz (40 g)

**Stock No. 207**



## Inserting the interchangeable electrode heads and connecting the cable

Insert electrode head 2 selected into holder 3 and screw down retaining ring 1. Plug one end of cable 4 into jack of holder 3 until it snaps into place. Introduce the second plug of the cable 4 in like manner into the jack of the moisture meter.



## Screw-in electrode set

consisting of:

**Stock No. 226**

- adapter cable → Stock No. 200 d
- screw-in electrode pair → Stock No. 225
- expanding plugs → Stock No. 226 a
- carbide-tipped drill of 6 mm dia. → Stock No. 226 b
- 100 ml of graphite powder → Stock No. 226 c

Graphite is to be used to assure good electrical contact of the expanding plugs.

## Alligator clips



The adapter 200 d and the alligator clips permit a variety of auxiliary probes such as nails, dowel plugs of metal, etc. to be connected to the moisture meter.

Weight:  
approx. 1 oz (30 g)

**Stock No. 200 Kr**

## Technical details

The AQUA-BOY-Digital with two switch-selected measuring ranges covers the entire moisture spectrum of practical importance from dry to wet.

The modern bicolor Novodur housing provides excellent protection for the moisture meter, digital display and controls.

Power supply is by means of an internationally standardized exchangeable 9-Volt battery.

The measuring principle is based on the electrical conductivity of the material to be measured. This conductivity is a function of the moisture content. Variations in conductivity inside the measuring ranges of interest are so extreme as to assure a high degree of accuracy of the readings obtained.

Referred to the digital reading, the indicating accuracy is  $\pm 1$  digit and the repeat accuracy  $\pm 2$  digits.

Long years of practical experience of our development department in co-operation with industrial specialists and scientists as well as official test and research laboratories assure long and reliable service of the AQUA-BOY in accordance with the latest art in electronic moisture detection.

### Delivery includes:

#### AQUA-BOY-Digital, Type DBM I:

The moisture meter comes complete with case and the following accessories:

Universal measuring cable  
(stock Nr. 200)

Hammer electrode (stock No. 203 b)

Universal electrode holder  
(stock No. 204)

Needle electrode head (stock No. 207)

Screw-in electrode set (stock No. 226)

Spare battery, operating instructions and comparison tables.

## Operating instructions

### How to measure

Plug the electrode into the electrode jack of the meter and apply to the material to be measured. Depress the appropriate measuring button and note the digital reading. Refer to the comparison table for the material in question and convert the reading into per cent. moisture. Terminate the measurement by letting go of the measuring button.

### Replacing the battery

A minimum of power consumption assures long battery life. An optical signal indicates when the battery is discharged and must be replaced. In such case, the "LO-BAT" indication will appear on the display when the measuring button is depressed.

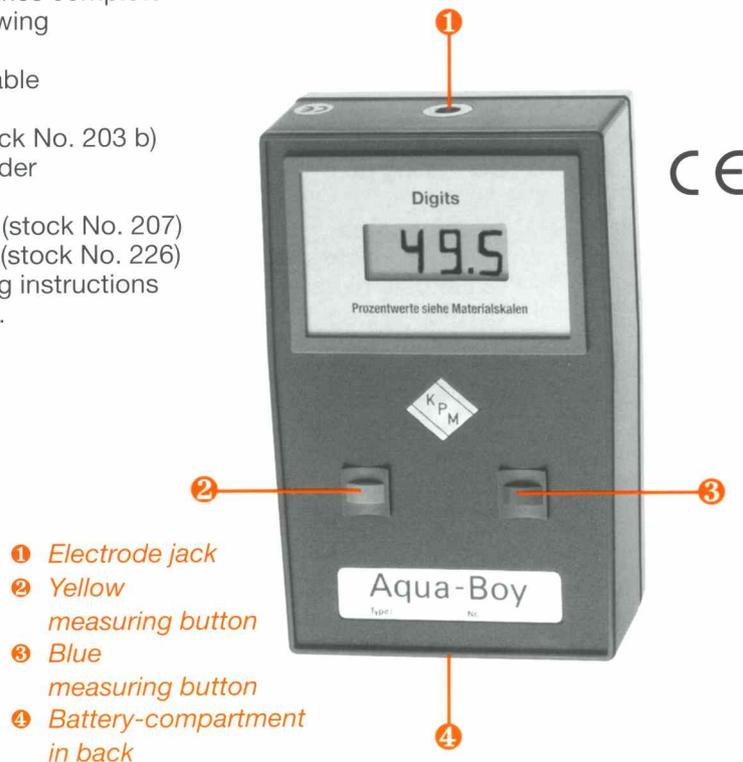
### Technical specifications

Length . . . . . approx. 6 $\frac{5}{8}$ " (170 mm)  
Width . . . . . approx. 4 $\frac{1}{2}$ " (115 mm)  
Height . . . . . approx. 2" (50 mm)  
Weight . . . . . approx. 14 oz (0,4 kg)

The meter circuits are exclusively equipped with modern chips.

Guaranteed for 1 year

The right is reserved to alter the design and specifications as required.



# **AQUA-BOY** **DBM I** *with digital display*

This new moisture meter is an advanced version of the BM I model that has proved its usefulness for measuring the moisture content of construction material for many years.

Two overlapping measuring ranges from very dry to excessively moist permit all moisture contents normally encountered in construction materials to be measured.

Operation is easy and simple by means of two push-buttons of different color, one for each measuring range. If a digital reading higher than 98 is obtained with the yellow push-button, the blue push-button should preferably be used.

Comparison tables for the various materials make it possible to convert the digital readings into percent moisture content.

These conversion tables have been prepared in accordance with the latest knowledge concerning the moisture contents of construction materials and are available for a large number of such materials.

See the reverse side for a listing of available material comparison tables.



## Comparison Tables

<i>Type of material</i>	<i>Measuring range</i>	<i>Page</i>	<i>Typ of material</i>	<i>Measuring range</i>	<i>Page</i>
Anhydrit .....	- 0,3 %	...2	Holzzementestrich ...	6 - 8 %	...3
Anhydrit .....	0,5 - 4 %	...11	Holzzementestrich ...	8 - 18 %	...12
Ardurapid .....	0,6 - 1 %	...2	Kalkmörtel 1:3 .....	0,5 - 1,7 %	...1
Ardurapid .....	1 - 2 %	...11	Kalkmörtel 1:3 .....	2 - 16 %	...12
Backstein-Ziegel .....	0,25 - 0,55 %	...4	Kalksandstein .....	1,5 - 3,5 %	...6
Backstein-Ziegel .....	4 - 28 %	...13	Kalkstein, grau .....	0,2 - 0,6 %	...6
Beton leicht .....	3 - 9 %	...4	Kokosbaststaub .....	8 - 24 %	...7
Beton 200 kg/m <sup>3</sup> .....	0,2 - 1,1 %	...3	Korkgranulat .....	3 - 16 %	...6
Beton 350 kg/m <sup>3</sup> .....	0,2 - 1,6 %	...4	Leder .....	6 - 28 %	...7
Beton 500 kg/m <sup>3</sup> .....	0,8 - 1,8 %	...4	Lehm-Ton .....	0,1 - 0,24 %	...4
Elastizellestrich .....	1 - 3 %	...3	Naturkork .....	5 - 12 %	...6
Elastizellestrich .....	2 - 10 %	...12	Naturkork .....	16 - 40 %	...13
Eternit .....	0,5 - 8 %	...3	Papier .....	4 - 28 %	...7
Eternit .....	10 - 34 %	...11	Phenolharz-Spanplatte	3 - 14 %	...7
Gasbeton .....	1 - 10 %	...1	Polystyren .....	3 - 6 %	...5
Gasbeton .....	10 - 40 %	...12	Sandstein, rot .....	0,4 - 1,4 %	...6
Gips .....	0,2 - 2,5 %	...2	Steinholz .....	11 - 12,5 %	...3
Gips .....	2 - 24 %	...13	Steinholz .....	12 - 22 %	...12
Gipsestrich .....	0,4 - 1 %	...2	Steinwolle .....	0,5 - 0,8 %	...5
Gipsestrich .....	1 - 5 %	...13	Styropor .....	5 - 21 %	...5
Gips, synthetisch ....	20 - 25 %	...2	Urethanschaum .....	6 - 12 %	...5
Gips, synthetisch ....	24 - 44 %	...13	Zementmörtel 1:3 ....	1 - 2,3 %	...1
Glas-Mineralwolle ....	1 - 2,3 %	...5	Zementuntergründe ..	1,5 - 7 %	...11
Holzsorten .....	6 - 30 %	...9			
Holzsorten .....	8 - 32 %	...10			
Holzsorten .....	10 - 34 %	...10			
Holzsorten .....	4 - 28 %	...10			
Holz .....	30 - 120 %	...11			
Holzleimbau-Bauholz .	7 - 22 %	...1			



**Please note!**

The first AQUA-BOY Measuring Manuals were published many years ago. In the intervening time, we have acquired new knowledge and experience: moreover, the composition of a number of materials has changed. As a consequence, the measuring ranges of various AQUA-BOY moisture meters have also had to be changed to reflect the new findings. Likewise, the correlation between some of the comparison scales (also called conversion scales) and the centesimal scale has also had to be changed.

For this reason, our conversion scales must be revised from time to time to reflect the newly acquired practical experience and research findings. Such revisions are made whenever the sum of new information so requires. The comparison tables are then corrected and brought up to date.

If the moisture value obtained on a comparison scale appears to deviate too much from what is believed to be the right figure, this must be verified by means of a comparison test in the drying oven. Should this test confirm the deviation, the moisture meter must be recalibrated for the material in question.

All comparison scales with divisions in percent have been prepared with utmost care, taking into account all applicable regulations. The readings obtained by the user must be interpreted with due regard to the existing measuring situation and the electrode used. Consequently, we cannot be held liable for the moisture reading obtained by the individual user.

**On pages 8 and 14 we have included blank centesimal scales to enable the user to prepare his own specific scales based on his individual experience.**

**EC Conformity Declaration**

This is to certify that the moisture meter indicated below in the design as sold by us complies with the applicable EC requirements.

Modifications not authorized by us invalidate this declaration.

Description: Moisture Meter  
Modell: AQUA-BOY  
AQUA-PICCOLO

Applicable EC standart:  
**EMC Test EN 45001**

Applied harmonized standards:  
**ITE Used Standart  
EN 50081-1/01/92**

**ESD Used Standard  
EN 50082-1/01/92  
EN 55022B**

The moisture meter was tested in a typical situation

Renningen 02.96  
K.P. MUNDINGER GMBH

## Moisture Content of Construction Materials

in percent by weight  
referred to the dry weight

### Maturity for flooring in %

Anhydrit-Fließestrich	.0,3
in case of vapor-tight flooring materials	
Anhydritestrich	.0,5
Ardurapid	.2,0
Magnesiaestrich	.12,0
(DIN 18 365)	
Zementestrich	.4,0
Betonbauten	.5,0
(DIN 4108)	

### General criteria

in case of moisture-insensitive flooring	..... ≤ 4,5 %
in case of moisture-sensitive flooring	..... ≤ 4,0 %
in case of vapor-tight flooring	..... ≤ 3,5 %

### Moisture equilibrium in %

Anhydrit	.0,55
Ardurapid	.1,0
Backstein, Vollziegel	.0,5
Bimsbeton,	
Leichtbeton	.4,0
Gasbeton	.2,5
Gipsestrich	.0,75
Gipsputz	.0,5
Holzzementestrich	.8,4
Zementmörtel	.2,0
Zementputz	.2,0
Kalkmörtel	.2,0
Kalkmörtel 1:3	.1,75
Kalkputz	.2,0
Kalksandstein	.5,0
Kalkstein	.2,0
Schlackenbeton	.3,0
Schwerbeton	.2,0
Steinholz, Magnesit	.14,0
Zementmörtel 1:3	.1,7

The above figures reflect the present state of scientific knowledge. Most of them are only attained in the course of years and remain at a constant low level only in normal climates. This is why the maturity figures indicated above as the moisture levels permitting floor coverings to be laid are meant for practical purposes.

### Building structures

consist of many different construction materials, most of which are composed of a great variety of basic substances. Consequently, their physical characteristics and features vary within wide limits. This explains the differences in flooring maturity and moisture equilibrium.

### Measuring instructions

#### for screeds (plaster) and concrete by means of the electrode kit #226

Drill two 6 mm diameter holes approximately 25 cm apart in the desired position and to the required measuring depth. Immerse the expanding dowel tips of the screw-electrodes into the powdered graphite, tap off any excess graphite and introduce the electrodes into the drilled holes. Turn the electrode rods clockwise to fix the expanding dowel tips at the desired depth. Connect the electrode rods to the moisture meter using the adapter cable #200d and the measuring cable #200. Depress the measuring key to make a measurement and transfer the reading of the moisture meter to the conversion table to obtain the moisture content in percent.

The moisture meter has two different measuring ranges that can be selected by means of the yellow and blue keys. The yellow key is intended for the lower and medium moisture ranges extending, for example, from about 6% to 30% for wood. The blue key permits measurements in the higher moisture ranges, for instance up to about 100% for wood.

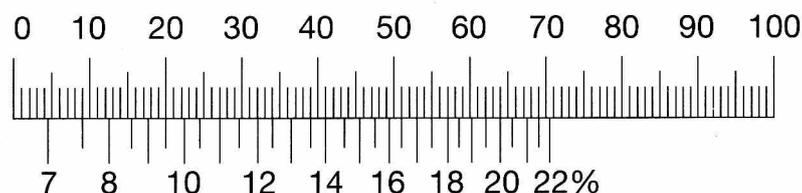
In order to permit correct correlation between the digital readings and the conversion scales indicating the moisture content in percent for specific materials, the scales are marked „button yellow“ and „button blue“.

The conversion scales permit the readings obtained in numerical digits to be converted into the moisture content of specific materials expressed in percent. The upper centesimal scale furnishes the numerical digits whereas the lower scale indicates the moisture in percent.

## Bauholz

structural timber  
plâtre bois  
madera de construcción  
legno e edilizia

Taste gelb button yellow bouton jaune pulsador amarillo pulsante giallo



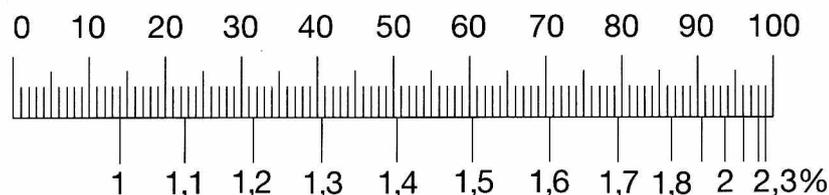
Feuchtigkeit moisture humidité humedad umidità

Diese Bauholzfeuchte-%-Ableleskala bezieht sich auf das für den Holzleimbau zugelassene Fichtenholz gemäß DIN 1052 sowie DIN 68160 und

entsprechend der Zulassung des Gerätes durch die FMPA Bauwesen - Otto-Graf-Institut der Uni Stuttgart.

## Zementmörtel 1:3

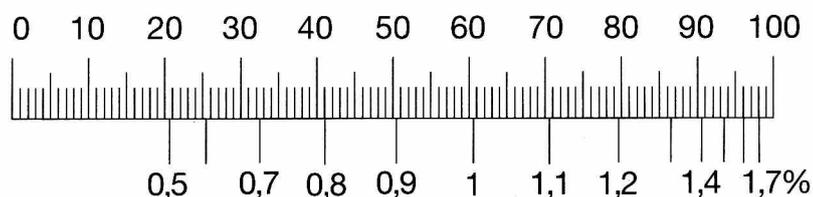
cement mortar 1:3  
mortier de ciment 1:3  
mortero de cemento 1:3  
malta di cemento 1:3



Feuchtigkeit moisture humidité humedad umidità

## Kalkmörtel 1:3

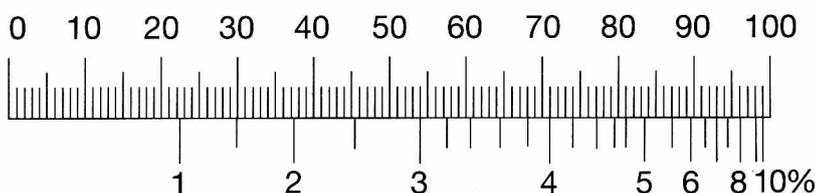
lime mortar 1:3  
mortier de chaux 1:3  
mortero de cal 1:3  
calcina 1:3



Feuchtigkeit moisture humidité humedad umidità

## Gasbeton

gas-formed concrete  
béton cellulaire  
hormigón poroso  
calcestruzzo cellulare

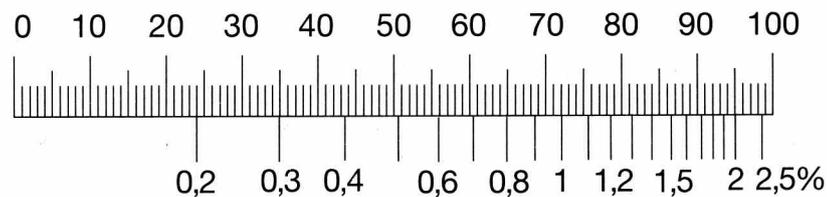


Feuchtigkeit moisture humidité humedad umidità

## Gips

plaster  
plâtre  
revoque de yeso  
intonaco di gesso

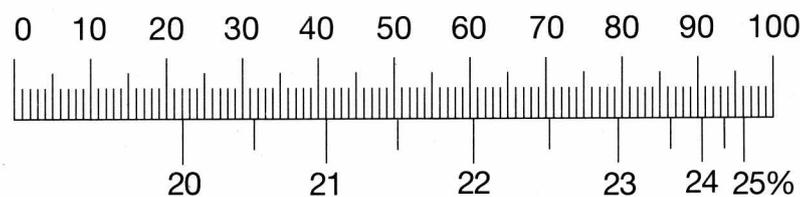
Taste gelb button yellow bouton jaune pulsador amarillo pulsante giallo



Feuchtigkeit moisture humidité humedad umidità

## Synth. Gips

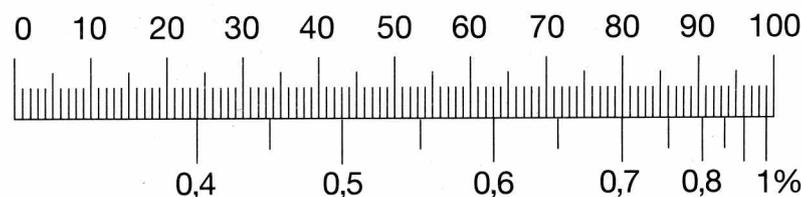
synthetic plaster  
synthétique plâtre  
sintético revoque de yeso  
sintetico intonaco di gesso



Feuchtigkeit moisture humidité humedad umidità

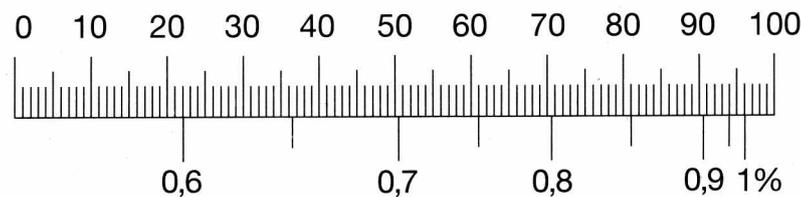
## Gipsestrich

plaster subflooring  
aire en plâtre  
solado de yeso  
sottopavimento di gesso



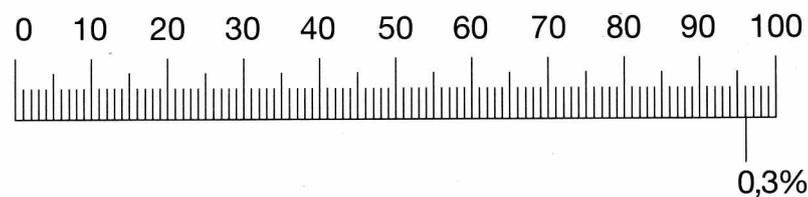
Feuchtigkeit moisture humidité humedad umidità

## Ardurapid



Feuchtigkeit moisture humidité humedad umidità

## Anhydrit

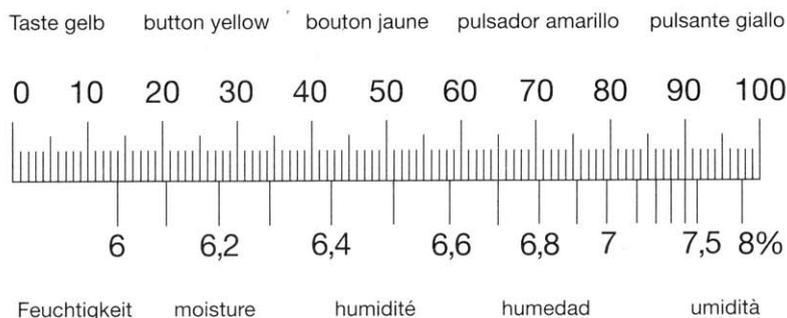


Feuchtigkeit moisture humidité humedad umidità

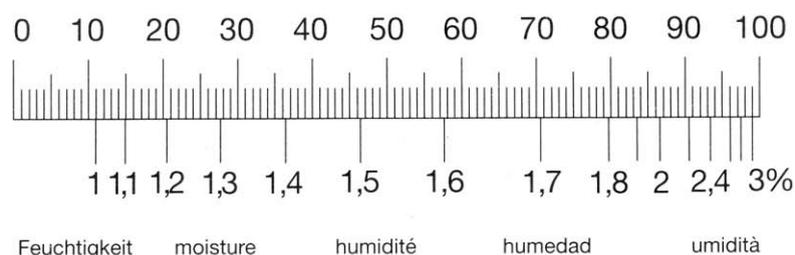


## Holzzementestrich

magnesite subflooring  
air en pâte de bois  
solado de magnesita  
sottopavimento die magnesite

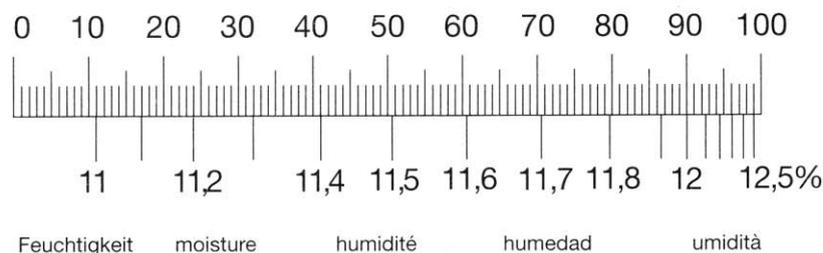


## Elastizellestrich



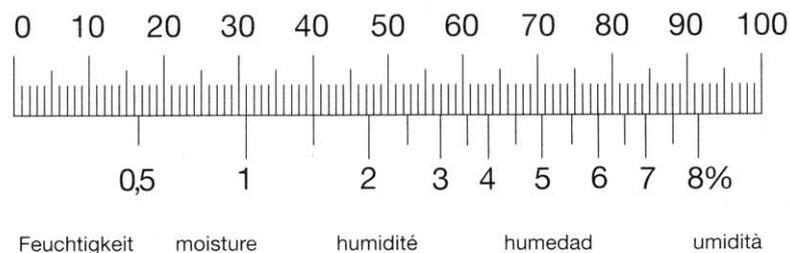
## Steinholz

magnesite composition  
pâte de magnésie  
magnesita  
magnesite



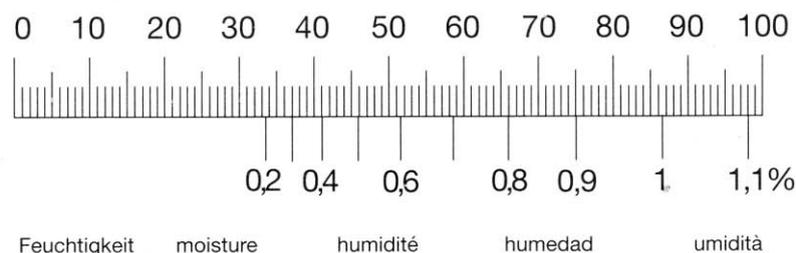
## Eternit

asbestos cement  
amiante ciment  
fibrocemento



## Beton 200 kg/m<sup>3</sup>

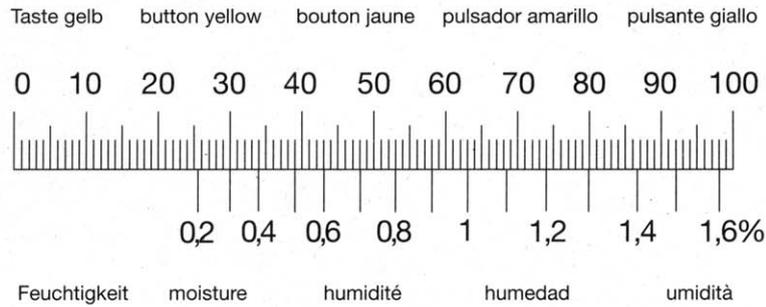
concrete 200 kg/m<sup>3</sup>  
béton 200 kg/m<sup>3</sup>  
hormigón 200 kg/m<sup>3</sup>  
calcestruzzo 200 kg/m<sup>3</sup>





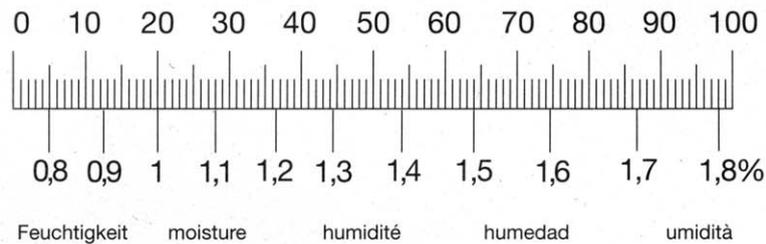
### Beton 350 kg/m<sup>3</sup>

concrete 350 kg/m<sup>3</sup>  
béton 350 kg/m<sup>3</sup>  
hormigón 350 kg/m<sup>3</sup>  
calcestruzzo 350 kg/m<sup>3</sup>



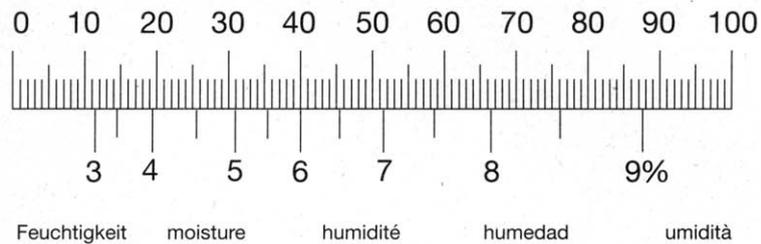
### Beton 500 kg/m<sup>3</sup>

concrete 500 kg/m<sup>3</sup>  
béton 500 kg/m<sup>3</sup>  
hormigón 500 kg/m<sup>3</sup>  
calcestruzzo 500 kg/m<sup>3</sup>



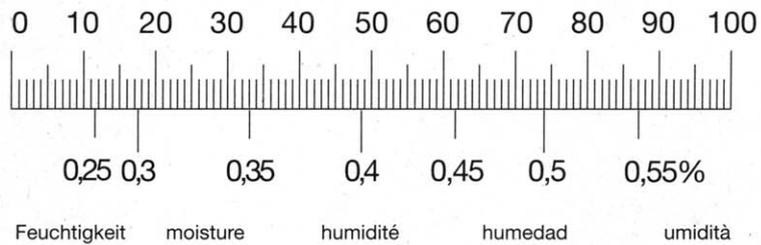
### Leichtbeton

lightweight concrete  
béton léger  
hormigón ligero  
calcestruzzo leggero



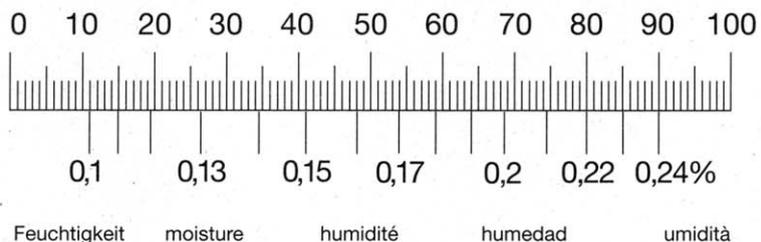
### Backstein-Ziegel

bricks  
briques  
ladrillos  
mattoni



### Lehm-Ton

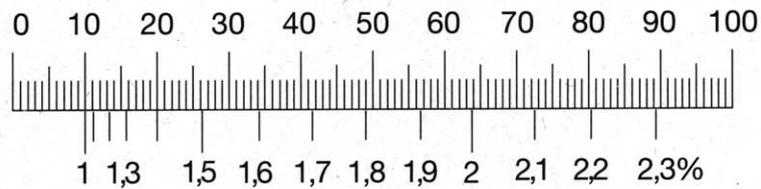
loam-clay  
limon-argile  
barro-arcilla  
argilla





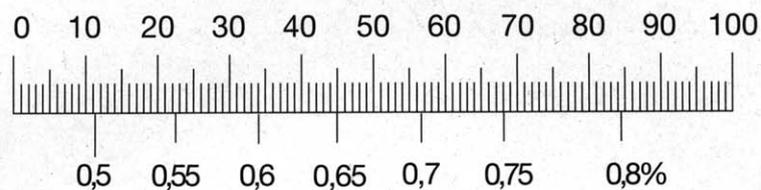
### Glas-Mineralwolle

Taste gelb    button yellow    bouton jaune    pulsador amarillo    pulsante giallo



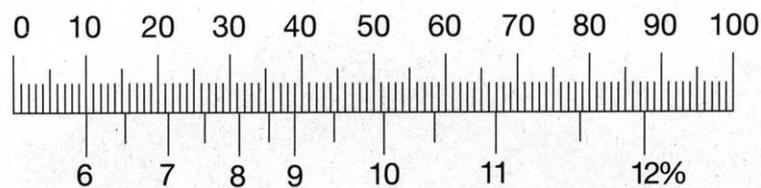
Feuchtigkeit    moisture    humidité    humedad    umidità

### Steinwolle



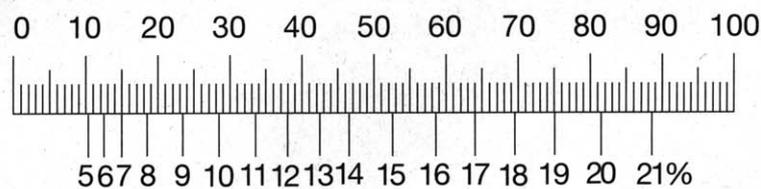
Feuchtigkeit    moisture    humidité    humedad    umidità

### Urethanschaum



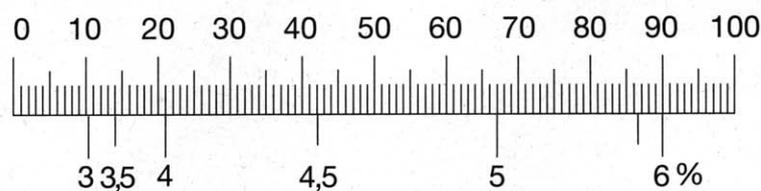
Feuchtigkeit    moisture    humidité    humedad    umidità

### Styropor



Feuchtigkeit    moisture    humidité    humedad    umidità

### Polystyren

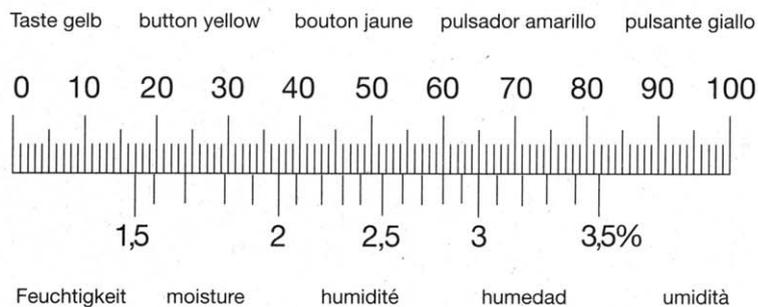


Feuchtigkeit    moisture    humidité    humedad    umidità



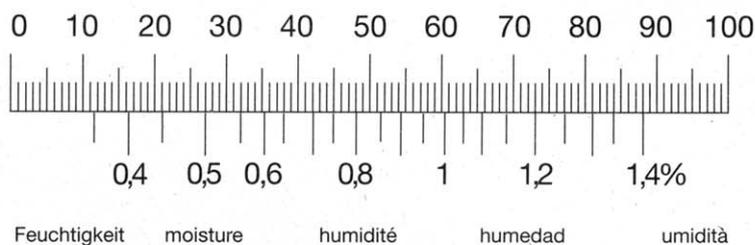
## Kalksandstein

sand-lime bricks  
briques silico-calcaires  
ladrillos de arena calcarea  
mattoni di sabbia e calce



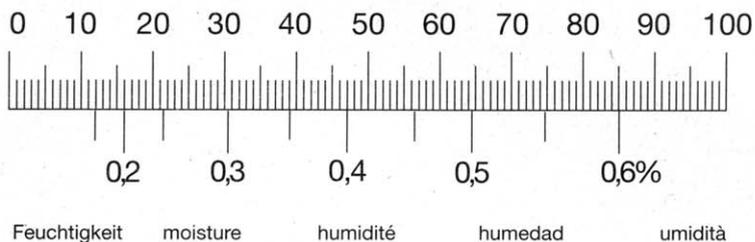
## Roter Sandstein

red sandstone  
grès rouge  
piedra arenisca roja  
arenaria rossa



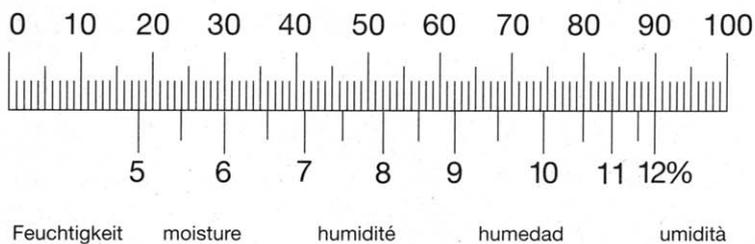
## Grauer Kalkstein

grey limestone  
calcaire gris  
piedra calcarea gris  
calcare grigio

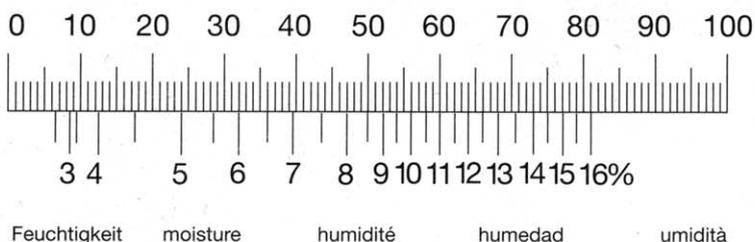


## Naturkork

natural kork  
liège naturel  
corcho natural  
sughero naturale



## Korkgranulat

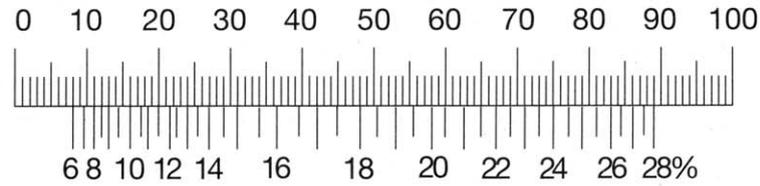




## Leder

leather  
cuir  
cuero  
cuoio

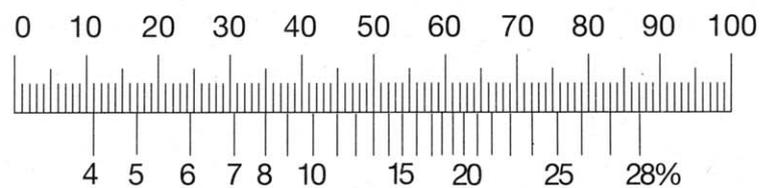
Taste gelb    button yellow    bouton jaune    pulsador amarillo    pulsante giallo



Feuchtigkeit    moisture    humidité    humedad    umidità

## Papier

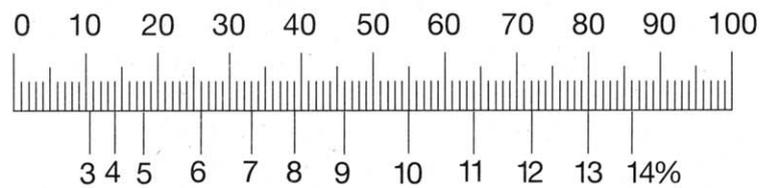
paper  
papier  
papel  
carta



Feuchtigkeit    moisture    humidité    humedad    umidità

## Phenolharz-Spanplatte

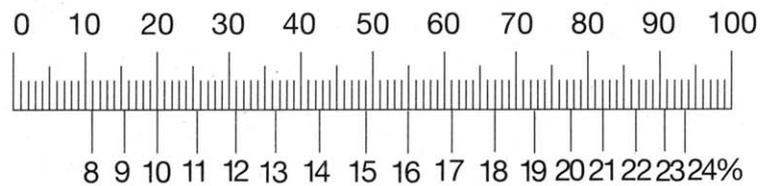
phenoplastic  
particle boards  
panneaux en  
particules de bois  
phénoplastiques



Feuchtigkeit    moisture    humidité    humedad    umidità

## Kokosbaststaub

coir dust



Feuchtigkeit    moisture    humidité    humedad    umidità



Feuchtigkeit    moisture    humidité    humedad    umidità



Die nachfolgenden 100-er-Skalen sind vorgesehen für die Eintragung von Erfahrungswerten.

The centesimal scales below are intended for entering empirical values.

Les échelles centesimales ci-après sont prévues pour y inscrire des valeurs empiriques.

Le seguenti scale centesimali sono previsti per vi annotare dei valori empirici.

Las siguientes escalas centesimales están previstas para anotar valores empiricos.

Taste gelb button yellow bouton jaune Pulsador amarillo pulsante giallo



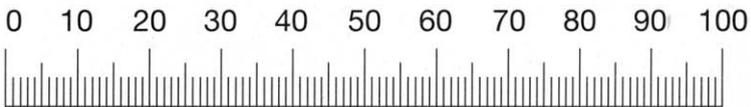
Feuchtigkeit moisture humidité humedad umidità



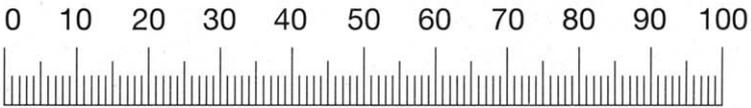
Feuchtigkeit moisture humidité humedad umidità



Feuchtigkeit moisture humidité humedad umidità



Feuchtigkeit moisture humidité humedad umidità

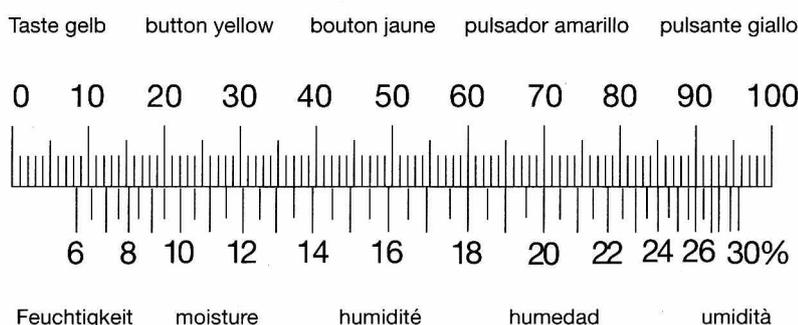


Feuchtigkeit moisture humidité humedad umidità

## Holzsorten-Skalen

### Wood scales

The following scales indicating the moisture content in percent are arranged in a manner as to clearly indicate the correlation between the various species of wood and the appropriate scales. For this reason, all the respective species of wood are listed below the various scales.

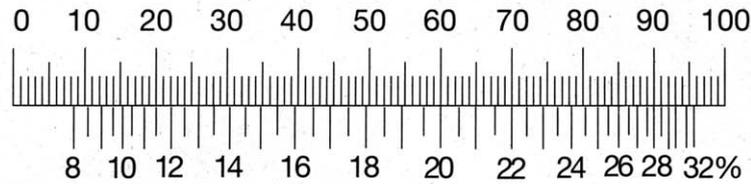


<b>A</b> abale	Catìvo	<b>H</b> ainbuche	Mutiria	Roble
Abedul	Cedro macho	Haldu	Muzaiti	Rüster
Abete	Ceiba	Hemlock		
Abeti	Cerisier	Hintsy	<b>N</b> aga	<b>S</b> apelli
Abeto	Chêne	Holzfaserplatten	Noce	Sapin
Aboudikro	Chengal		Noyer Commun	Sapo
Acajou	Cherry	<b>I</b> nsignis pine	Nussbaum	Satinwood, Nig.
Acero	Chickrassy	Inzia		Scots pine
Afara white	Chittagong	Ivory wood	<b>O</b> ak japanese	Seekiefer
African cedar	Ciliego	Izombe	Ogea	Sen
Afzelia	Cochenilla		Okan	Sepetir
Agba	Cochenille	<b>J</b> elutong	Okwen	Seraya
Ahorn	Cottonwood		Oleo vermelho	Sikon
Aiele	Courbaril	<b>K</b> ampferholz	Oivello	Silver fir
Alder	Crabwood	Kapur	Olmo	Sitka-spruce
Alerce	Cypress	Karri	Omu	Sittka-Fichte
Alstonia		Kastanie	Onara	Steineiche
Amacacue	<b>D</b> ániellia	Kaurie	Ontano	Son
Amarello	Danta	Kempas	Opepe	Spruce-Western
Amazakoue	Dao	Khaya	Oregon cedar	white Canadian
Andiroba	Diambi	Kiefer	Orme	Sugar maple
Andoung	Douka	Kirschbaum	Ovangkol	Sycamore
Angelin	Doussie	Kosipo	Ozigo	
Angelique		Kotibe		<b>T</b> ali
Antiaris	<b>E</b> astern pine		<b>P</b> adouk	Tamo
Apa	Eibe	<b>L</b> ärche	Paldao	Tanne
Arce	Eiche, jap.	Lahuan	Partridge	Tiama
Ash	Ekop	Landa	Penak	Tola branca
Aspe	Elm	Laoure vermelho	Pernambuc	Toledo wood
Ayan	Emien	Larch	Peroba de campos	Tsuga
Ayous	Epicéa	Larice	Pezzo	Tupelo gum
Azobe	Erable	Lauan	Pflaumenbaum	
	Erle	Laurel	Pin maritime	<b>U</b> lme
<b>B</b> aboen	Esche	Limba	Pin silvestre	
Balau	Espe	Limballi	Pini del	<b>V</b> irola
Balsa	Essia	Limbo	Nord Amerika	
Balsamo	Evino	Linde USA	Pino Pece	<b>W</b> alnut
Basralocus	Eyong	Locust	Pino resinoso	Weißbuche
Basswood			Pino rojo	Weymouths-
Berlinia	<b>F</b> aro	<b>M</b> acoré	Pino silvestre	kiefer
Betulla	Föhre	Magnolia	Pitch pine	White ash
Bilinga	Frassino	Mahagoni	Plane	White pine
Birch	Frêne	Makore	Platane	Whitewood
Birke	Fresno	Manbarklak	Plum tree	
Birnbaum	Fromager	Manio	Podo	<b>Y</b> ang
Blackwood		Maple	Ponderosa pine	Yellow wood
Blauholtz	<b>G</b> edu Nohor	Maulbeerbaum	Possentrie	Yemane
Blue Gum	Geronggang	Mayflower	Purpleheart	Yew
Bongossi	Grand Bassam	Meléze	Pyinkado	
Bosse	Greenheart,	Mengkulang		<b>Z</b> irbelkiefer
Bouleau	African	Merawan		Zitterpappel
Brasilian	Grenadill	Merbau	<b>Q</b> uaruba	Zypresse
Buche weiß	Guapinol	Mogano, African	Quercia	
Buma	Guarea	Movingui		
	Guatambu	Mucarati	<b>R</b> amin	
<b>C</b> ampeche	Gumari	Mulberry	Red cedar, eastern	
Camphor tree	Gurjun	Muninga	Red pine	
east african		Musizi	Rengas	
			Robinie	



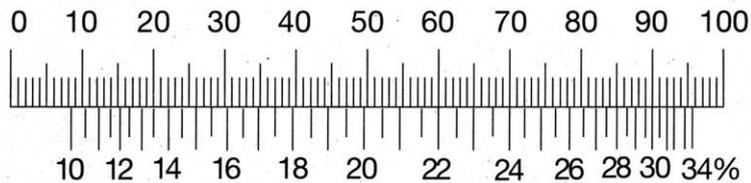
## Holzsorten-Skalen

Taste gelb button yellow bouton jaune pulsador amarillo pulsante giallo



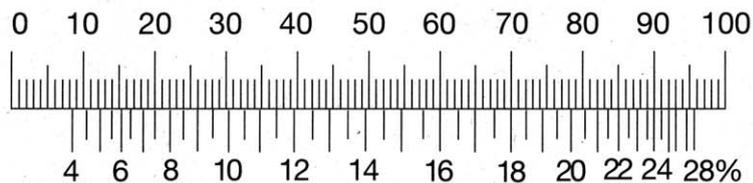
Feuchtigkeit moisture humidité humedad umidità

<b>A</b> bachi, Wawa	Coique	<b>I</b> lomba	<b>N</b> iangon	Rotbuche
Abura	Cordia Wood	Incienso	Niove	<b>S</b> anta Maria
Afara Black	Cornel	Iroko	<b>O</b> beche	Sasswood
Alamo			Okoume	Satinwood
Angola	<b>D</b> abema	<b>J</b> acaranda	Olive	Sequoia
Aningeri	Dahoma	Jacareuba	Oregon pine	Spin de Douglas
Araucaria	Dogwood	Jarra	Ozouga	Sucupira
Assacu	Douglas fir	Jong Kong		
Assegai	Douglasie		<b>P</b> alisander	<b>T</b> eak
Avodire	Durian	<b>K</b> ambala	Panga Panga	Teck
		Koto	Parana pine	Tepa
<b>B</b> ahia	<b>E</b> benholz	Krabak	Pau rosa	Thuja
Banga Wanga	Ebiara		Peuplier	Tigerwood
Beech	Ebony	<b>L</b> ime	Pin de parana	Tiglio
Bete	Engkalong	Lomba	Pino de Oregon	Tilleul
Bintangor		Lusamba	Pino del Brasil	Tilo
Boxwood	<b>F</b> ichte		Pino real	
Brasilkiefer	Framiré	<b>M</b> akarati	Pioppo	<b>U</b> runday
Brownheart	Freijo	Mansonia	Pockholz	<b>W</b> acapou
Buche, rot		Massaranduba	Poplar	Wawa, Abachi
Buchsbaum	<b>G</b> abun	Mecrusse		Wenge
	Gaiac	Mersawa	<b>Q</b> ualele	<b>Z</b> agai
<b>C</b> ardboard	Goncalo alves	Missanda	Quebracho	Zapatero
Cedre	Goupie	Moabi		Zeder, weiß und rot
Cedrela	Greenheart	Mockernut	<b>R</b> auli	
Cedro		Mora	Red cedar	
Chestnut	<b>H</b> aya	Muhimbi	western	
Chilean Beach	Hêtre	Muhuhu	Red lancewood	
Cocuswood	Hickory	Mukulungu	Rosewood	
Coeur Dehors		Mutenye		



Feuchtigkeit moisture humidité humedad umidità

Afrommosia	Hevea	Lapacho	Nyatoh	Tchitola
Brasilian walnut	Imbuia	Meranti, leicht rot	Piuva	Ungusi
Coutchouc	Kongofah	Meranti, yellow	Rhodesian Teak	Zebrano
Guayacan	Krokodua	Mukusi	Sambia Teak	Zingana

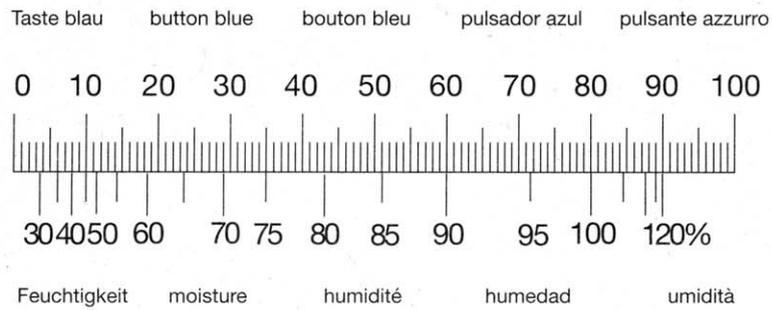


Feuchtigkeit moisture humidité humedad umidità

Bibolo	Eiche, rot u. weiß	Keroewing	Pappel	Redwood
Bubinga	Harnstoff-Spanplatten	Kevazingo	Pino calif.	Sipo
Dibetou		Lauan, white and red	Red oak	Utile
				White oak

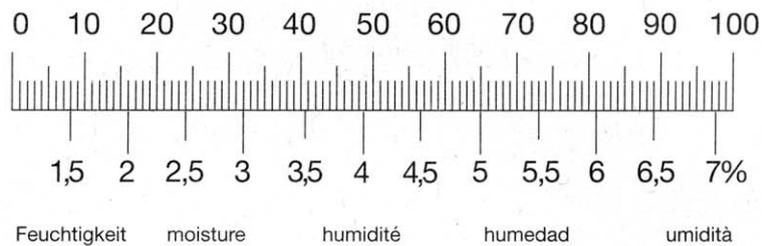
## Holz

timber  
bois  
madera  
legno

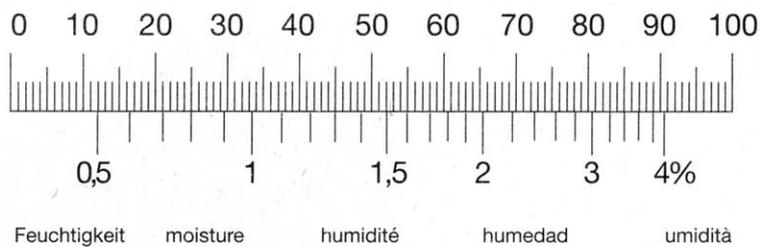


## Zementuntergründe

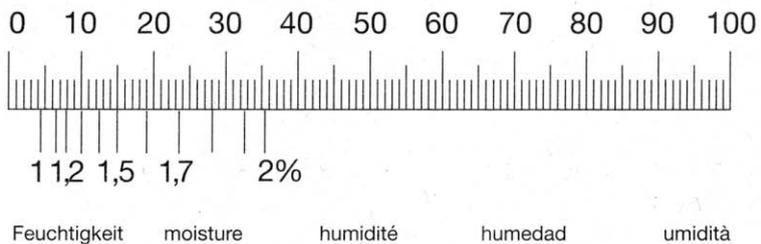
cement bases  
bases di ciment  
bases de cemento  
basi di cemento



## Anhydrit

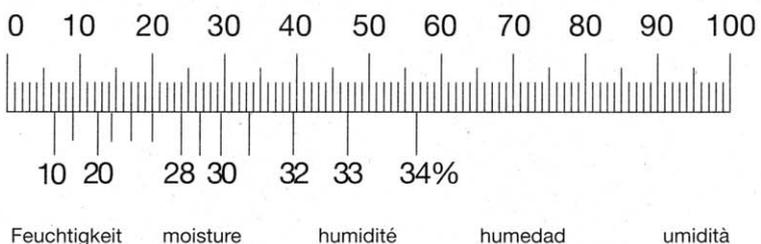


## Ardurapid



## Eternit

asbestos cement  
amiante ciment  
fibrocemento

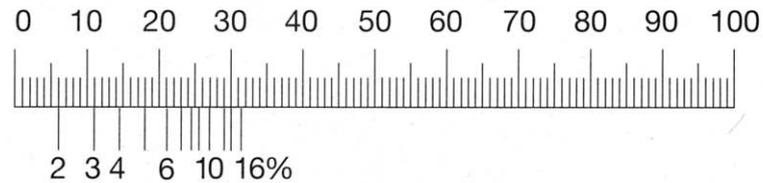




## Kalkmörtel 1:3

lime mortar 1:3  
mortier de chaux 1:3  
motero de cal 1:3  
calcina 1:3

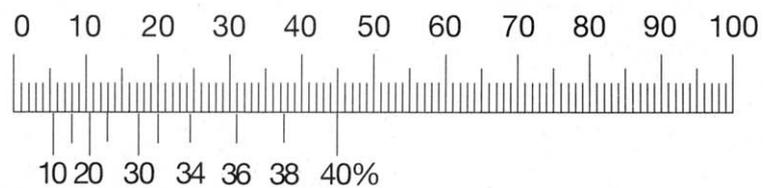
Taste blau button blue bouton bleu pulsador azul pulsante azzurro



Feuchtigkeit moisture humidité humedad umidità

## Gasbeton

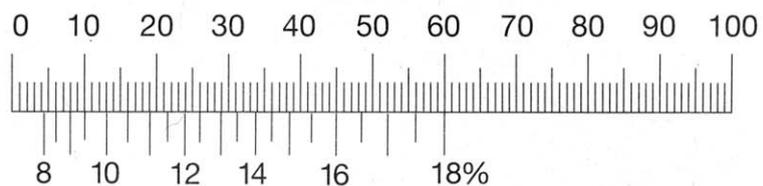
gas-formed concrete  
béton cellulaire  
hormigón poroso  
calcestruzzo cellulare



Feuchtigkeit moisture humidité humedad umidità

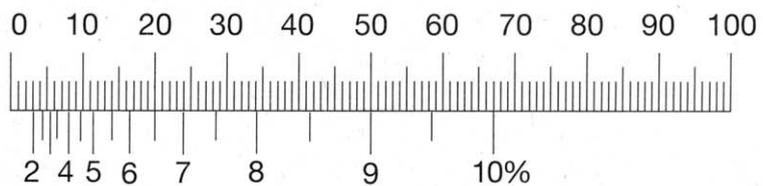
## Holzzementestrich

magnesite subflooring  
air en pâte de bois  
solado de magnesita  
sottopavimento di Magnesite



Feuchtigkeit moisture humidité humedad umidità

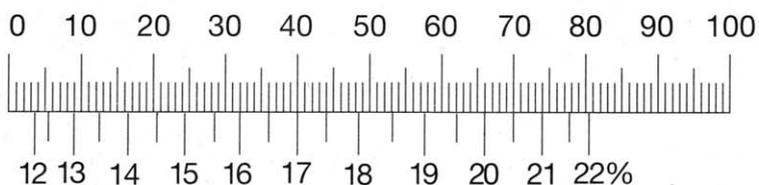
## Elastizellestrich



Feuchtigkeit moisture humidité humedad umidità

## Steinholz

magnesite composition  
paté de magnésie  
magnesita  
magnesite

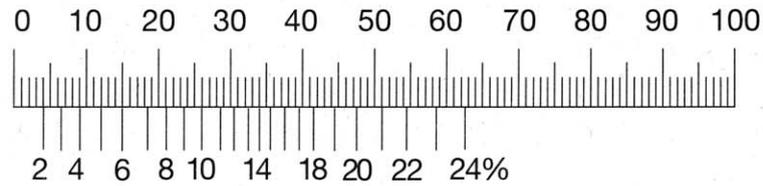


Feuchtigkeit moisture humidité humedad umidità

## Gips

plaster  
plâtre  
revoque de yeso  
intonaco di gesso

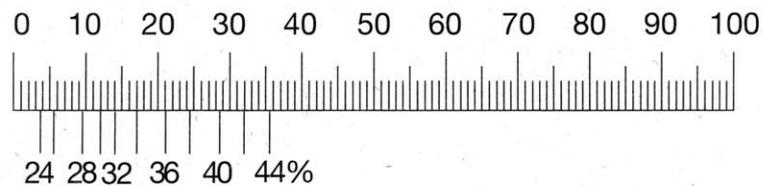
Taste blau button blue bouton bleu pulsador azul pulsante azzurro



Feuchtigkeit moisture humidité humedad umidità

## Synthetischer Gips

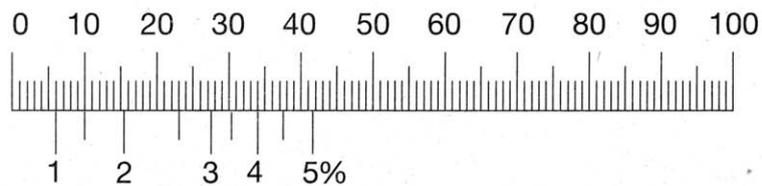
synthetic plaster  
synthétique plâtre  
sintético revoque de yeso  
sintetico intonaco di gesso



Feuchtigkeit moisture humidité humedad umidità

## Gipsestrich

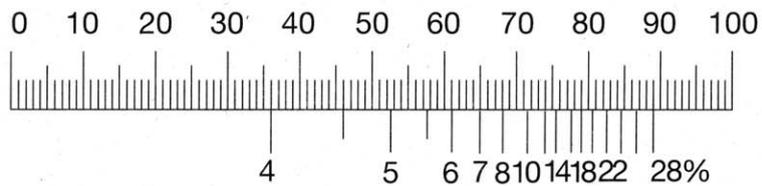
plaster subflooring  
aire en plâtre  
solado de yeso  
sottopavimento di gesso



Feuchtigkeit moisture humidité humedad umidità

## Backstein-Ziegel

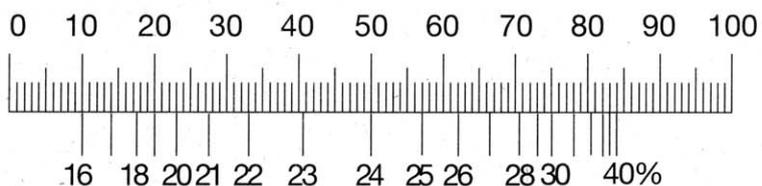
bricks  
briques  
ladrillos  
mattoni



Feuchtigkeit moisture humidité humedad umidità

## Naturkork

natural kork  
liège naturel  
corcho natural  
sughero naturale



Feuchtigkeit moisture humidité humedad umidità



Taste blau    button blue    bouton bleu    pulsador azul    pulsante azzurro

Die nachfolgenden 100-er-Skalen sind vorgesehen für die Eintragung von Erfahrungswerten.

0 10 20 30 40 50 60 70 80 90 100



The centesimal scales below are intended for entering empirical values.

Feuchtigkeit    moisture    humidité    humedad    umidità

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Las siguientes escalas centésimales están previstas para anotar valores empiricos.

Feuchtigkeit    moisture    humidité    humedad    umidità

0 10 20 30 40 50 60 70 80 90 100



Feuchtigkeit    moisture    humidité    humedad    umidità

0 10 20 30 40 50 60 70 80 90 100



Feuchtigkeit    moisture    humidité    humedad    umidità

0 10 20 30 40 50 60 70 80 90 100

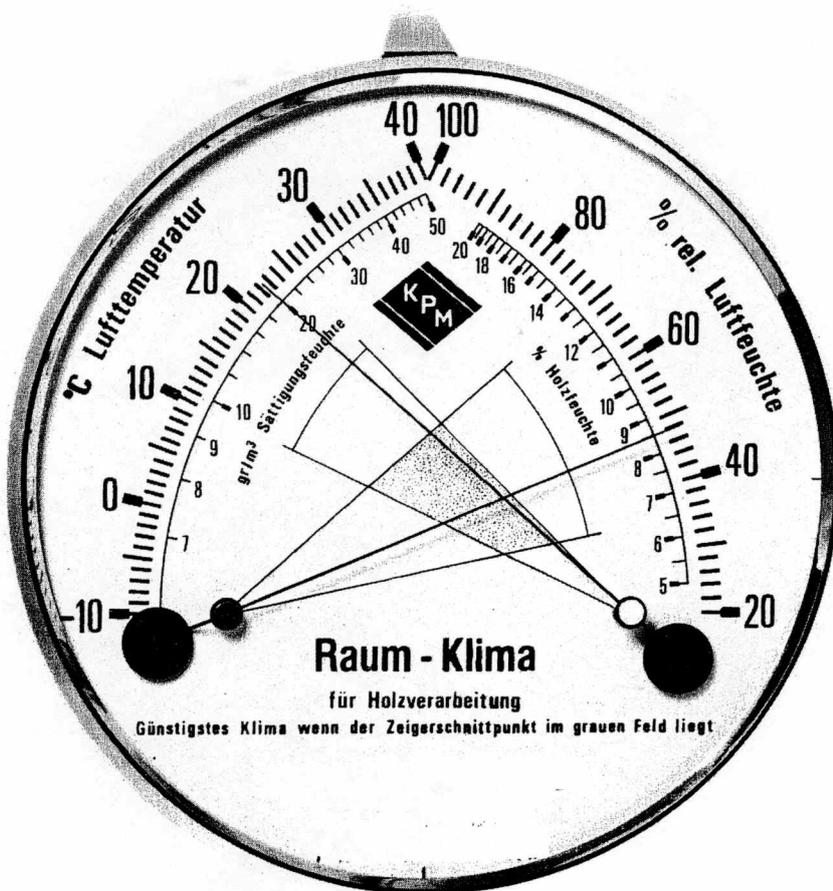


Feuchtigkeit    moisture    humidité    humedad    umidità

# THERMO-HYGROMETER TH 100

With enamelled aluminium housing  
Of 130mm dia. Ad chromeplated  
Facetted bezel, suspension eye on  
Back of housing.

Scale division:  
-10 to +40°C  
20 to 100% rel. Humidity  
Saturation humidity  
Wood moisture content



## Measuring principle:

The Thermo-Hygrometer consists of a precision hygrometer and a bimetallic pointer-type thermometer.

This permits direct reading of both the Temperature and relative humidity. At the same time, the instrument indicates the saturation humidity in  $g/m^3$  as well as the moisture content of wood as a function of the relative humidity,

Please treat the instrument carefully and protect it from shocks and impacts. If the reading of the temperature and the relative humidity should happen to be incorrect because of ageing or heavy shocks, this can be corrected on the back of the housing by means of a screwdriver.

The measuring spring for indicating the relative humidity tends to age if the hygrometer operates constantly at the same level of humidity. To avoid this from happening, check and, if necessary, regenerate the thermo-hygrometer from time to time. For this, wrap the instrument in a moist piece of cloth and keep it in the normal atmosphere for about thirty minutes. Repeat this procedure two to three times.

°C Lufttemperatur = °C Air Temperature  
% rel. Luftfeuchte = % Rel. Humidity  
 $Gr/m^3$  Sättigungsfeuchte =  $gr/m^3$  Saturation Humidity  
% Holzfeuchte = % Wood Moisture

AMBIENT CLIMATE  
For woodworking purposes  
Best climate where pointers intersect in grey area

