



COBB

COBB ABSORPTION TESTER

USER MANUAL



Foreword

First of all, thank you for your trust in our company and selecting our products. This manual shows all the functions and operations. Please read this manual seriously before installation and operation and maintenance. User manual will be changed without give notice if there is a need.

We prohibit any modification of the product. You have to bear any risk of modification when it happens.

Our products are manufactured in strict accordance with the production process, if the product is not working within one year, we will be repaired free of charge.

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Please read the user manual seriously before using it.

Safety precautions record important information about safety, it include "**DANGER**" and "**CAUTION**"



DANGER: Implementation errors may cause some problems.



CAUTION: Special attention information.



- Do not use it in flammable or explosive gas environments.
- Do not spill water on the product; stop using the product if water enter the product.
- Do not use product if it was damaged when received.



- Read the user manual seriously before using it.
- Please place the product in a ventilated environment.
- Use a dry cloth cleaning work.
- Please do maintenance work regularly to the product.

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Chapter 1 Installation

- Open the packing box, take out the cutter and incident technology file and make sure that all right.
- Get rid of antirust grease and dust sediments. Then placed on the pad, the surface of pad should level up and velvet.
- Examine every part of instrument if have mangle in transport.
- According to manual's operate process to test, if no abnormality, you can use.

Chapter 2 Introduction

PN-COBB Absorbability Tester applies to the absorption measurement for paper and cardboard. But it may be not suitable for paper and cruddy paper with a basis weight lower than 50g/m^2 . Likewise, it may be not applicable for loose paper (for example, newsprint) or unsized paper (for example, blotting paper) or other paper with high water absorbability.

Paper and board surface water absorption (Cobb): Under a certain pressure and temperature condition, the water absorption of per unit paper and board within a certain time (g/m^2).



This instrument is only capable of testing surface water absorption of paper and board. It is not applicable to exactly evaluate the writing performance of paper and board

Chapter 4 Executive Standard

The parameters and functions are in accordance with the following standards:

IS0535 Paper and board-Determination of water absorption-Cobb method

QB/T1668 Paper and board-Determination of water absorption-Cobb method

Chapter 5 Main Technical Parameter

- Test area: $100\text{cm}^2 \pm 0.2\text{cm}^2$
- The amount of water: $100\text{ml} \pm 5\text{ml}$
- press roller length: $200\text{mm} \pm 0.5\text{mm}$
- press roller quality: $10\text{kg} \pm 0.5\text{kg}$
- Size: $430 \times 300 \times 3800\text{mm}$ (L×W×H mm)
- Weight: About 25kg

Chapter 6 The test of absorption

➤ Sample preparation

Slice the sample into 10 circular test pieces having a diameter of 125mm (5 front pieces and 5 back pieces respectively). Make sure that each test piece has an effective area of 100cm².

➤ Test

1. Take the sample swiftly and weigh it, the mass mark g₁. Weight accuracy should be 0.001g.
2. Unscrew knob and open the cup cover, assure ring surface of the cylinder where contacting the sample is dry before placing the sample. Measure 100 ± 5mL of distilled water with a glass graduated cylinder precisely and pour it into the cylinder.
3. Fix the sample by cover to the cylinder and fasten the screw. Take off the spring-type straight pin, rotate the cylinder by 180 degrees by handle, then insert the spring-type straight pin into the slot and then start the timing.
4. This time parameter could be

selected according to water absorption property of paper and paperboard and make sure that it conforms to the value listed in the following table. Then loosen the cup cover and take out the sample, put the side which touch with water up on the prepared drink filter paper, then cover another drink filter paper on the sample, and roll forward and backward by press roller a piece one time. Now the sample folio and weigh the sample after drinking, the mass mark g₂.

5. Calculate the test result by the formula as follows. Its unit is g/m² and rounded to one place of decimal:

$$C = (g_2 - g_1) \times 100 \quad (\text{g/m}^2)$$

Where:

- C ——Cobb value;
- g₁ ——Mass of the sample after water absorption, g;
- g₂ ——Mass of the sample before water absorption, g;

6. Rub-up the water of cup edge and cover, then make up the water of cup reference water level bolt, and test next time.

※Table of recommended reference

Recommended test time (S)	Mark	Time to remove residual water(s)	Time to absorb water (s)
30	cobb30	20±1	30±1
60	cobb60	45±1	60±2
120	cobb120	105±2	120±2
300	cobb300	285±2	300±2
1800	cobb1800	1755~1815	After removed 15±2

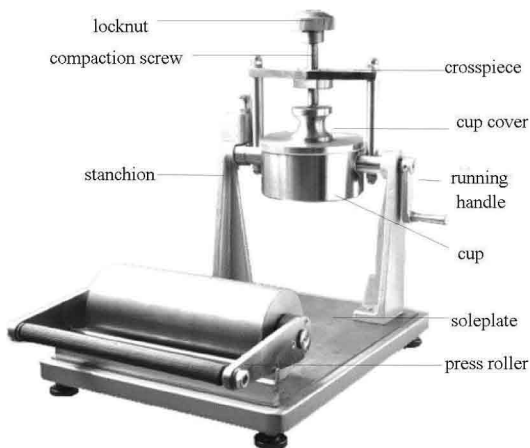
Chapter 7 Note

- ◆ Use distilled water or deionized water to test, during the test keep water temperature as same as that of atmosphere, that is 20±1°C or 23 °C. and replacing the water every time test.
- ◆ The basis weight of water absorption is 200-250g/m². absorption rate is 75mm/10min. According to the standard GB1540: when the quantity of single absorbent paper is less than 200-250g/ m²,stack the absorbent paper to satisfy actual requirements.
- ◆ When test corrugated board, press roller axes should parallel corrugated direction in process.
- ◆ Don't bring to bear force on plumb direction when use press roller.
- ◆ Each sample can only be tested for one time and can't be used repeatedly.

Chapter 8 Maintenance

- ◆ Keep instrument cleaning and dry.
- ◆ Avoid instrument collide with press roller surface when using.
- ◆ The running and glide part should often fill oil.
- ◆ Do not bump the plane of cup and cup mouth so as to affect the seal.
- ◆ After the test, clean the instrument and keep it dry.

Chapter 9 Configuration



Chapter 10 Package List

NO.	Item	Unit	Qty.	Remarks
1	Absorbabilty Tester	Set	1	PN-COBB
2	Certificate of Compliance	Set	1	
3	Smooth compression roller	Set	1	
4	User's Manual	PCS	1	
5	Guarantee card	PCS	1	



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