RHOPINT INSTRUMENTS

RHOPINT AMERICAS

www.rhopointinstruments.com sales@rhopointinstruments.com

HANATEK CBT1
CREASE & BOARD STIFFNESS TESTER

Crease & Board Stiffness Tester

- Board stiffness
- Crease recovery
- Crease to board stiffness ratio

Manufactured by Rhopoint Instruments in the United Kingdom

Who measures board stiffness and crease resistance?

Board stiffness and crease resistance are important measures that indicate how a finished carton will run on an automated glueing, filling or packaging line.

Substrate manufacturers, printers, converters and any manufacturer who fill or pack products in cartons can use this measurement to optimise production.

QA departments use these instruments to check the running attributes of finished cartons prior to conversion and filling, reducing lost production time from slow running or difficult to convert packaging.

Carton manufacturers and designers can use a Crease and Board Stiffness Tester with a Hanatek Carton Crease Proofer to test different substrate and crease combinations in the laboratory without committing valuable production time.

Measurement Benefits

- **Manufacture consistent product**
- **Increase production**
- **Increase product quality**
- **Increase packaging speed**
- **Optimise production process**

Why is board stiffness and crease resistance testing important?

A printed sheet or roll of carton board is die-cut and creased into a preformed carton board blank. This blank is then often glued and erected before being filled on an automated packaging line, these processes all interact mechanically with the blank to convert it into a three dimensional object.

Dimensional Strength

It is also important that the finished material has the required dimensional strength to hold and protect the packaged product.

Maximum Speed

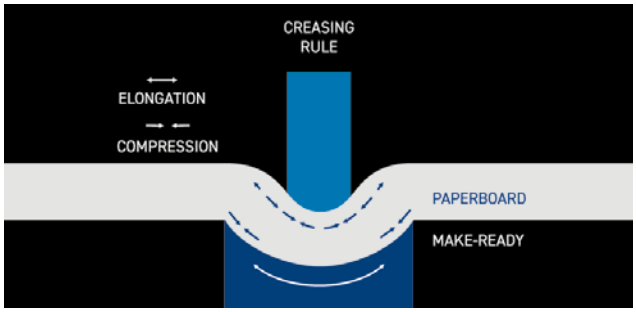
To be most cost effective, it is important this conversion is performed at the maximum speed possible without causing mis-feed and blockages in the process.

Stiffness and Crease Resistance

Board stiffness test and crease resistance testing are important parameters that help determine maximum conversion and packaging speeds, they can also be related to the final dimensional stability of the finished product.

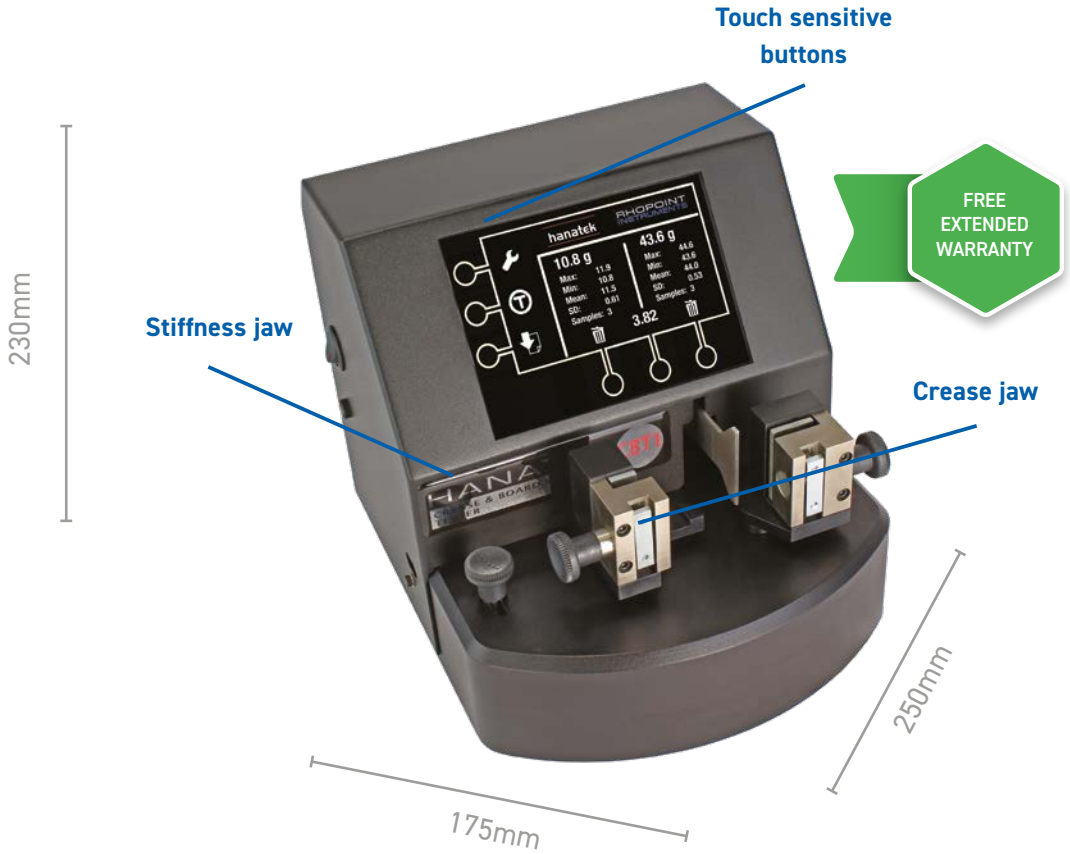
Board stiffness is determined by the physical makeup of the substrate i.e. - its thickness, fibre mix, coating and manufacturing method. It is determined by measuring the resistance of a cut sample to a force applied through a pre-determined angle.

Crease resistance is a similar measure of resistance which is made across a preformed crease in the carton blank.



Features and applications

The Hanatek CBT1 Crease and Board Stiffness Tester gives board manufacturers, printers and packing companies the ability to predict the 'runability' of a sample board or finished carton.



Automatic dwell time

15 second measurement delay to eliminate operator variability (according to BS 6965).

Automatic stiffness and crease ratio

Results calculated and displayed instantly on screen.

Automatic statistical calculation

Full statistics are displayed for both crease recovery and board stiffness..

Unprinted carton board

BS 6965, ISO 2493, BS 3748, TAPPI T556

Printed packaging

BS 6965, ISO 2493, BS 3748, TAPPI T556

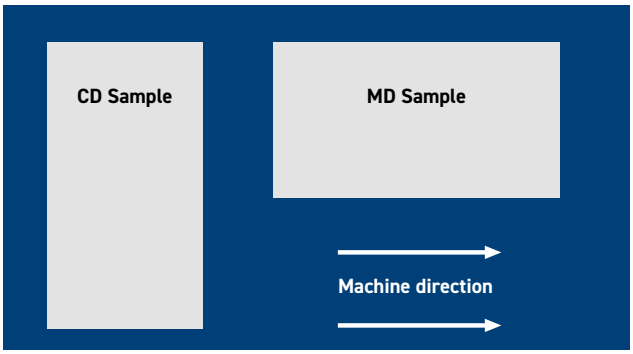
Test types

Making a Board Stiffness Test

Board stiffness is measured on a sample 70 mm x 38mm in size. Board stiffness differs slightly according to whether it is tested with the liner on the side touching the load bar, or on the other side.

The board direction required for test should run along the 70mm length of the specimen. A number of samples should be tested in each direction. It is recommended that you test MD and CD separately to get accurate results and a crease to board stiffness ratio.

15 ° Board Stiffness



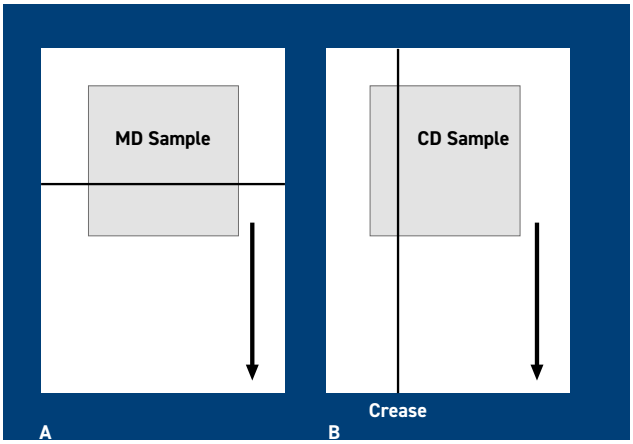
Sample preparation

Making a Crease Stiffness Test

The size of a standard BS6965 crease sample is 38x38mm with the crease line 13mm in from one edge. The CBT1 instrument is designed to test crease samples of the above size only.

The diagram illustrates MD and CD samples with creases across them, as will be required for crease stiffness testing.

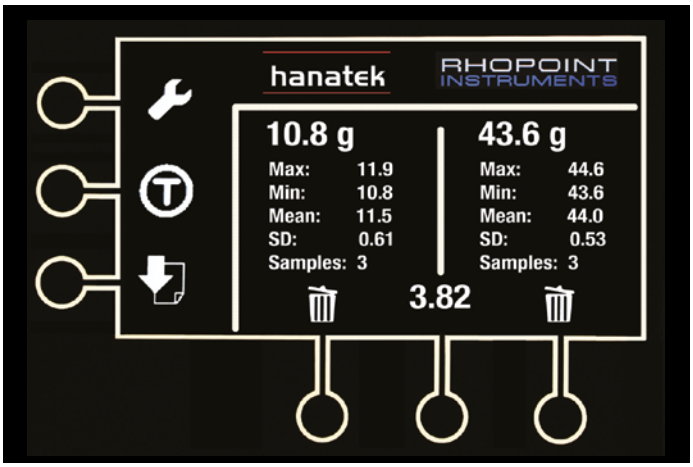
90 ° Crease Recovery



Sample preparation

Results

The Hanatek CBT1 tester automatically calculates the Crease/Board stiffness ratio for quick and easy analysis of results.



Export to USB Stick

Measurements made using the CBT1 can be exported to a USB stick via interface software. The data can be transferred to the USB stick. All measured and calculated parameters are exported in .csv file format, as shown below:

Date T	ime	Serial No	Last Certified	Board samples	Board Max	Board Min	Board Mean	Board SD	Crease samples	Crease Max	Crease Min	Crease Mean	Crease SD	Ratio
Apr 04 2014	12:12:00 2	CBT120314001A	8/03/2014	4	44.4	44 4	4.2	0.173 4	4	3.9	43.7	43.8	0.099	0.992

Export to Results Printer

Using a custom data cable and pre-programmed label printer the results from the CBT1 instrument can be sent directly to a label printer.

Accessories

The package includes:

CBT1 instrument with test jaws

UKAS traceable calibration certificate

2 x Sample templates

USB & Data cable

Optional extras:

Rounded corner jaw

Results printer

Sample preparation:

Universal Sample Cutter
Sample preparation is easy with the Hanatek universal sample cutter.

Dedicated Crease & Board Sample Cutter
Prepare crease and stiffness samples

Associated products:

Carton Crease Proofer
Produce product quality crease samples without committing valuable machine time.

Carton Force Analyser
For more repeatable testing and the ability to test small samples.

Specifications

Standard	Application	Details
BS 6965	Creasing properties of carton board	Method for determination of crease recovery (spring back) of 90° fold
BS 3748	Carton board	Method for determination of resistance to bending of paper and board
TAPPI T556 (15° ONLY)	Paper and board	Bending resistance of paper and paper board by single-point bending method
BS ISO 2493-1:2010	Paper and board	Determination of bending resistance
SCAN P29	Paper and board	Bending resistance
PMI 068	Philip Morris	Determination of the spring-back force of packaging materials

Instrument Specifications	Details
Resolution	0.5g
Accuracy	0.1g
Range	0-450gF
Certificate	UKAS traceable calibration certificate
Power	110/240v 50/60Hz

Instrument Dimensions	Details
Size	(H) 230 x (W) 175 x (D) 250mm
Weight	7.6kg
Package weight	10kg
Tariff code	90248000

Order Codes	
Instrument	HAN-A9011CBT1.2
Printer	RL-B-PRINTER/2
Rounded jaw	HAN-A-CBTRNDJAW
Dedicated Crease & Board Sample Cutter	HAN-B9100SAMPLE
Universal sample cutter - crease & board to BS6965 and ISO2493	RL-A80-001

Free extended warranty: Free extended 2 year warranty: Requires registration at www.rhopointinstruments.com within 28 days of purchase. Without registration, 1 year standard warranty applies.

Calibration and service: Fast and economical service via our global network of accredited calibration and service centres. Please visit www.rhopointinstruments.com for detailed information.

RHOPOINT INSTRUMENTS

RHOPOINT AMERICAS

TRY BEFORE YOU BUY

We offer two options for you to try out the Hanatek CBT1 before buying

1. **Online demonstration:** Online presentation of the Hanatek CBT1 with your samples measured LIVE on Zoom, Microsoft Teams or Skype. Includes a consultation with an application specialist

2. **Factory sample testing:** Send in samples of your material for testing and receive a comprehensive test report

Arrange a demo

Ready to receive a quote? **Click here**

Rhopoint Instruments Ltd
Rhopoint House, Enviro 21 Park, Queensway Ave S,
St Leonards, TN38 9AG, UK

T: +44 (0)1424 739 622
E: sales@rhopointinstruments.com
www.rhopointinstruments.com

Rhopoint Americas Inc.
1000 John R Road, Suite 209, Troy,
MI, 48083, United States

T: 1.248.850.7171
E: sales@rhopointamericas.com
www.rhopointamericas.com

Rhopoint Instruments GmbH
An der Kanzel 2
D-97253 Gaukönigshofen, Deutschland

T: +49 (0)9337 900-4799
E: info@rhopointinstruments.de
www.rhopointinstruments.de

bsi ISO 9001 Quality Management Systems CERTIFIED
FS 695373

All images are for illustrative purposes only