

INSTRUCTION MANUAL

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CHC-520 Cross Hatch Cutter



Airblast B.V.

P.O. Box 1075
1700 BB Heerhugowaard
The Netherlands
Tel. : + 31 72 5718002
Fax : + 31 72 5714340
Email : info@airblast.com
Web : www.airblast.com

Safety precautions

- Avoid humidity
- A knife is a sharp object. Be careful when using it.

Product descriptions

The Airblast CHC-520 Cross Cut Adhesion Test Kit is used to test the adhesion of dry coats of paint on their substrate by means of a series of cuts through the coating. Two series of parallel cuts cross angled to each other to obtain a pattern of 25 or 100 similar squares. The ruled area is evaluated by using a table chart after a short treatment with a stiff brush, or adhesive tape for hard substrates.

The cutting knife of the Cross Cut Adhesion Test is easy to exchange without the use of extra tools. The self positioning knife bracket of the Cross Cut Adhesion Test ensures equal pressure on the cutting knife.

Delivery includes

Each Cross Cut Adhesion Test Kit contains a grip, a brush, an illuminated magnifier and a roll of adhesive tape acc. EN ISO 2409. The knife must be ordered separately.

All parts of the CHC-520 can be ordered separately:

- 7875550 Adhesion tape, single roll, adhesion to steel 4.3 N/cm
- 7865560 Adhesion tape, single roll, adhesion to steel 7.6 N/cm
- 7865570 Nylon Brush
- 7865580 Illuminated Magnifier 2.5x
- 7865500 Knife acc. to DIN-ISO, teeth distance 1 mm
- 7865510 Knife acc. to DIN-ISO, teeth distance 2 mm
- 7865520 Knife acc. to DIN-ISO, teeth distance 3 mm
- 7865530 Knife acc. to ASTM, teeth distance: 1 mm
- 7865540 Knife acc. to ASTM, teeth distance: 1,5 mm

Preparations

1. Make sure the surface to be tested is rigid and firm
2. Choose the right cutter
 - ISO 2409 :2003: 1 mm. spacing for coatings up to 60 μm on hard substrates
 - 2 mm. spacing for coatings up to 60 μm on soft substrates
 - 2 mm. spacing for coatings from 61 to 120 μm on both hard and soft substrates
 - 3 mm. spacing for coatings from 121 μm to 250 μm on both hard / soft substrates
 - ASTM D3359: 1 mm. spacing for coatings up to 50 μm
 - 1,5 mm. spacing for coatings from 50 to 125 μm
- 1 Always makes sure the cutter is sharp and undamaged. The ISO-standard advises replacement of the cutter when the top of the cutting teeth has flattened with 0,1 mm.
- 2 Place the cutter as indicated on the picture.



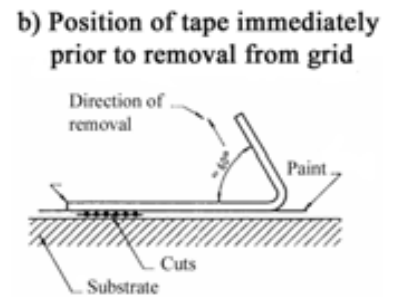
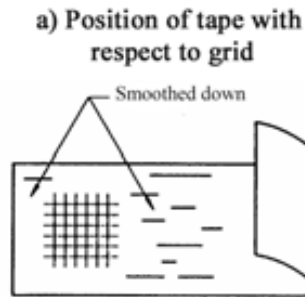
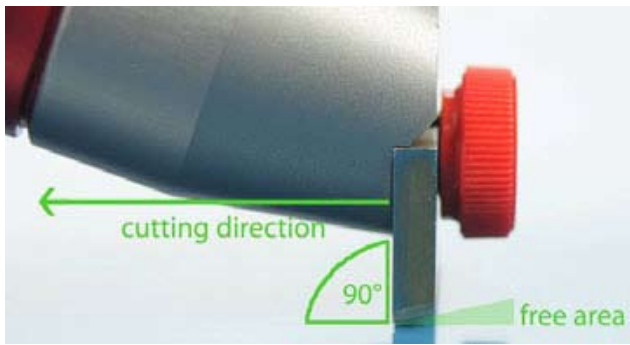
Measuring method

A right-angle lattice pattern is cut into the coating penetrating through to the substrate. The resistance of the coating to separation of the substrate is classified using the table.

Working method

1. Make two cuts/scratch, perpendicular to each other, drawing the handle with the appropriate cutter (depending on coating thickness and substrate) through the coating into the substrate thus making the lattice pattern. The picture indicates the correct position of the cutter and cutting direction.
2. Brush the pattern lightly with the supplied brush several times back and forth along each of the diagonal lines of the lattice pattern.
3. For hard substrates only the test can be extended by applying the adhesive tape parallel to one set of cuts over the lattice pattern and pull it off steadily in 0.5 to 1 sec. at a 60° angle within 5 minutes after applying.

- Carefully examine the cut area, if required using the magnifier and classify the test area according the table.



Classification	Description	Appearance of surface of cross-cut area from which flaking has occurred (Example for six parallel cuts)
0	The edges of the cuts are completely smooth; none of the squares of the lattice is detached.	
1	Detachment of small flakes of the coating at the intersections of the cuts. A cross-cut area not significantly greater than 5% is affected.	
2	The coating has flaked along the edges and/or at the intersections of the cuts. A cross-cut area significantly greater than 5%, but not significantly greater than 15%, is affected.	
3	The coating has flaked along the edges of the cuts partly or wholly in large ribbons, and/or it has flaked partly or wholly on different parts of the squares. A cross-cut area significantly greater than 15%, but not significantly greater than 35%, is affected.	
4	The coating has flaked along the edges of the cuts in large ribbons and/or same squares have detached partly or wholly. A cross-cut area significantly greater than 35%, but not significantly greater than 65%, is affected.	
5	Any degree of flaking that cannot even be classified by classification 4.	

Replacing the batteries

- Push and lift to unlock the back lid.
- Place battery with +/- as indicated. Unlock the light bulb by sliding the knob upwards. Turn the bulb to loosen/tighten it.

Maintenance

- Though robust in design, this instrument is precision-machined. Never drop it or knock it over
- Always clean the instrument after use.
- Clean the instrument using a soft dry cloth. Never clean the instrument by any mechanical means such as a wire brush or abrasive paper. This may cause, just like the use of aggressive cleaning agents, permanent damage.
- Do not use compressed air to clean the instrument.
- Always keep the parts in the case when not in use.

AIRBLAST GROUP

Airblast B.V.

P.O. Box 1075
1700 BB Heerhugowaard
The Netherlands

Tel : +31 72 5718002
Fax : +31 72 5714340
Email : info@airblast.com
Web : www.airblast.com

Airblast Middle East L.L.C.

P.O. Box 33419
Dubai
United Arab Emirates

Tel : +971 4 3242776
Fax : +971 4 3242778
Email : airblast@emirates.net.ae

Airblast Saudi Trading & Industrial Est.

P.O. Box 30476
Al-Khobar 31952
Kingdom of Saudi Arabia

Tel : +966 3 8473178
Fax : +966 3 8471430
Email : info@airblast.com.sa

Airblast Qatar WLL

P.O. Box 47044
Wakra
Qatar

Tel : +974 4 4631043 / +974 4 4631074
Fax : +974 4 4631154
Email : info@airblast.com.qa

Asia Airblast Pte Ltd.

13, Kian Teck Crescent, #02-00
Singapore 628878

Tel : +65 6266 6010
Fax : +65 6266 6968
Email : airblastsg@singnet.com.sg

AB Corrosion Control Equipment Sdn Bhd

No. 33, Jalan Permas 3/18
Bandar Baru Permas Jaya
81750 Masai, Johor Darul Takzim
Malaysia

Tel : +60 7357 7989
Fax : +60 7357 7689
Email : airblastmy@airblastasia.org

Airblast Equipment India Private Ltd.

#6-1-73/Unit - 207 'SAEED PLAZA'
HDFC Bank Building
Lakdi Ka Pul
Hyderabad 500004-AP
India

Tel : +91 40 6674 8855
Fax : +91 40 6674 8851
Email : info@airblastindia.com