

CROSS CUT ADHESION TEST KIT CC3000

SP1680, SP1681, SP1682, SP1683, SP1684

MANUAL

1 SAFETY PRECAUTIONS

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

2 PRODUCT DESCRIPTION

The TQC Cross Cut Adhesion Test KIT CC3000 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 depth of the TQC Cross Cut Adhesion Test KIT CC3000 can be adjusted while the cutter is guided by two ball bearings to assure reproducible results. The depth of the TQC Cross Cut Adhesion Test KIT CC3000 is adjustable to measure coatings up to 250 µm thick.

Each TQC Cross Cut Adhesion Test KIT CC3000 contains a grip with cutter, a brush, an illuminated loupe and a roll of adhesive tape acc. EN-ISO 2409.



3 STANDARDS

EN-ISO 2409, ASTM D3359

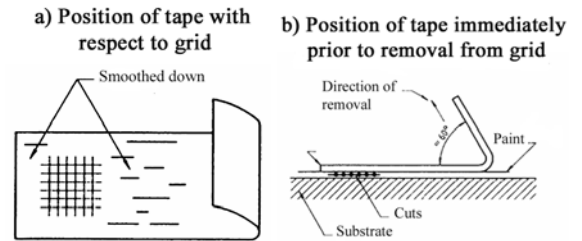
4 WHAT'S IN THE BOX?







CC3000 cross cut handle
Nylon brush
Allen key 2mm
Illuminated magnifier 2x
Knife (type depending on choice of model)
Case
Adhesive tape

Art-Nr.	SP1680	SP1681	SP1682	SP1683	SP1684	SP1695
Blades	6	6	6	11	11	No knife, kit only
Teeth distance	1mm / 0,039 inch	2mm / 0,079 inch	3mm / 0,12 inch	1mm / 0,039 inch	1,5mm / 0,059 inch	
Acc. To	ISO 2409	ASTM D3359	ISO 2409	ASTM D3359	ISO2409	ASTM D3359
Coating thickness on hard substrates	0-60µm / 0-2,4 mils	0-50µm / 0-2 mils	61-120µm / 2,4-4,8 mils	50-125µm / 2-4,9 mils	121-250µm / 4,8-9,8 mils	0-50µm / 0-2 mils
Coating thickness on soft substrates	-		0-60µm / 0-2,4 mils			50-125µm / 2-4,9 mils
Spare knives	SP1702	SP1703	SP1704	SP1705	SP1706	

5 PERFORM A MEASUREMENT

- Make sure the surface to be tested is rigid and firm
- 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.
- Brush the pattern lightly with the supplied brush several times back and forth along each of the diagonal lines of the lattice pattern.
- 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 for ISO. For ASTM within 90s ±30s at a 180° angle.
- Carefully examine the cut area, if required using the magnifier and classify the test



Classification		Description	Appearance of surface of cross-cut area from which flaking has occurred (example for 6 parallel cuts)
ISO	ASTM		
0	5B	The edges of the cross-cut are completely smooth: none of the squares of the lattice is detached	
1	4B	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	3B	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	2B	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	1B	The coating has flaked along the edges of the cuts in large ribbons and/or some squares have detached partly or wholly. A cross-cut area significantly greater than 35%, but not significantly greater than 65%, is affected	
5	0B	Any degree of flaking that cannot even be classified by classification 4	

Hint: Always make sure the cutter is sharp and undamaged. The ISO-standard advises to replace the cutter when the top of the cutting teeth has flattened with 0,1 mm. Change the cutter by loosening the small bolt at the top using the Allen key.m (see picture)

Range: EN-ISO 2409:

- 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

5 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.
- Always keep the instrument in its case when not in use.

6 DISCLAIMER

The right of technical modifications is reserved.

The information given in this manual is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this manual without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Whilst we endeavour to ensure that all advice we give about the product (whether in this manual or otherwise) is correct we have no control over either the quality or condition of the product or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this manual is liable to modification from time to time in the light of experience and our policy of continuous product development.