

Short Instructions Cross-Cut Tester SecoTest

The ElektroPhysik cross-cut testers SecoTest are used for the assessment of adhesion resistance by cross-cut testing according to international norms. The model suitable for your application is to be selected from the table below according to the paint thickness and norm required.

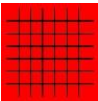
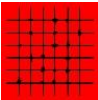


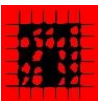
Norm	Coating thickness	Number of cutting edges x distance (mm)	Cross-cut tester	Spare cutter head
DIN EN ISO 2409	up to 60 µm on hard substrates (e.g. metal, plastics)	6 x 1	SecoTest 1 80-810-0100	70-800-0001
	up to 60 µm on soft substrates (e.g. wood, render)	6 x 2	SecoTest 2 80-810-0200	70-800-0002
	from 61 µm to 120 µm on hard and soft substrates	6 x 2	SecoTest 2 80-810-0200	70-800-0002
	from 121 µm to 250 µm on hard and soft substrates	6 x 3	SecoTest 3 80-810-0300	70-800-0003
ASTM D 3359	up to 50 µm (0 up to 2 mils)	11 x 1	SecoTest 4 80-810-0400	70-800-0008
	from 51 µm to 125 µm (> 2 mils up to 5 mils)	6 x 2	SecoTest 2 80-810-0200	70-800-0002

For routine testing, a single test will be sufficient. To increase accuracy, it is recommended to carry out tests at a minimum of 3 spots. For testing wood, the cutting direction should be in 45° to the wood grain direction.

Operation:

Position the cutting head so that the edge will be in vertical position on the sample during the testing procedure. Lock the fastening screw of the cutting head tightly with attached hex key. Firmly hold the grip of the SecoTest and place the cutting head on the surface to be tested. The rotating axis between holding grip and cutting head ensures a constant contact pressure over the complete width of the cutting head. Apply a constant pressure to draw the cutting edge across the paint coating. Repeat the procedure to make further cuts crossing the original cuts in a 90° angle until a lattice pattern is obtained and permanent cuts down to the substrate can be observed. Use the brush or an adhesive tape to remove detached paint particles. Now proceed on the visual inspection of the examined area possibly with the aid of the attached magnifying glass. Classify the lattice pattern of the cut area by comparing it with the schematic illustrations of the applicable norms. The result obtained is to be rated according to the cross-cut parameters given in the table on the backside.

Table – Classification of Test Results¹

Cross-cut value		Description	Cut area with lattice pattern due to paint chipping ² (example for 6 parallel cuts)
DIN EN ISO	ASTM		
0	5B	Completely smooth edges of the cut; none of the lattice squares has been detached.	
1	4B	At the intersections of cuts, small chips of coating are detached. The area affected is not greater than 5% of the cross cut area.	
2	3B	The coating has chipped along the edges and/or intersections of cuts. The chipped area is greater than 5% but not greater than 15% of the cross-cut area.	
3	2B	The coating has partly or totally chipped in large strips along the edges of cuts and/or squares have partly or totally detached. The chipped area is greater than 15% but not greater than 35% of the cross-cut area.	
4	1B	The coating has chipped along the edges in large strips and/or some squares have partly or totally detached. The chipped area is greater than 35% but not greater than 65% of the cross-cut area.	
5	0B	Any kind of chipping that can no longer be classified as cross-cut parameter 4.	

¹ Used with the kind permission of DIN

²The patterns are an example for a classification within the scope of the cross cut parameter classification. The percentages are based on the visual impression given by the patterns. Note: The percentages stated will probably not be represented by a digital pattern analysis.

Please note:

Though the tempered steel cutting heads provide an extended service life as they can be used up to six times, they will wear down over time. Spare cutter heads are available for all models.