

Data sheet

Universal automatic scratch and cross hatch cutter

Quality control device for paint and coatings

YouTube → [CHC2 neotec](#)

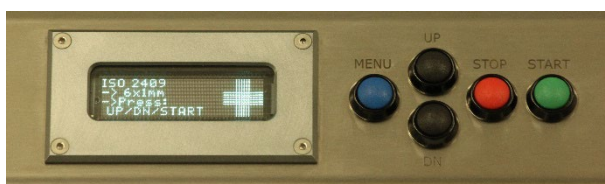


- Pre-programmed standard patterns
- High precision, reproducible, fast, safe
- Automatic substrate detection and substrate lighting
- “Cut-through” indicator with **statistics** after each cut pattern

The Automatic Cross Hatch Cutter can create accurate and reproducible pattern cuts through applied layering. This device is used in the paint and coating industries to determine whether coat or paint adheres properly to the substrates to which they are applied.

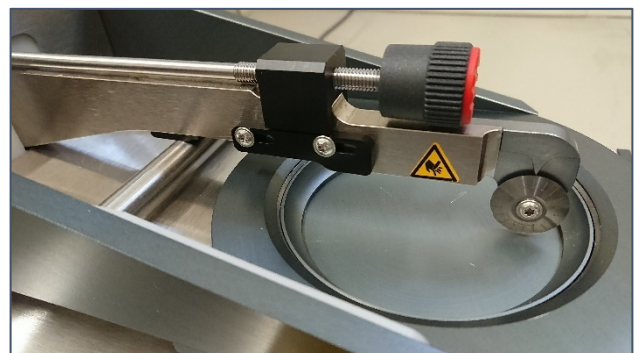
Operator friendly

Operating the Cross Hatch Cutter is easy due to an intuitive Graphical User Interface.



The operator merely places the substrate in the machine and chooses the appropriate testing pattern to start the automatic cutting process.

The knife pressure can easily be adjusted using a turning knob and the applied force is directly displayed.



Cross-cut test procedure

The cutting process starts by manually lowering the handle and placing a substrate in the machine.

The knife pressure can be adjusted by turning the pressure knob clockwise to increase and counter clockwise to decrease the pressure. The display will show the actual knife pressure.

Via the menu the operator can choose one out of 19 cutting patterns. By pressing the start button, the Cross Hatch Cutter will fully automatically start cutting the selected pattern. During this process the knife will slide into the panel and the panel will automatically rotate.

The pattern cut positioning, speed and knife pressure will be applied with high precision and will be far more reproducible than hand-made cuts, increasing the quality process of this test method.

The knife automatically returns to its starting point after finishing the cutting and the substrate can directly be removed or repositioned from the machine by again lowering the handle.

A new pattern can be selected and started at another position or with another substrate. The cutting force can also be re-adjusted for every single test pattern with a single cut.

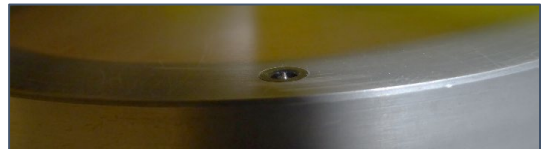
The indicator will show when the knife cuts through the coating into the metal substrate.

The display will show the average “cut-through” percentage after a pattern is cut! (optional)



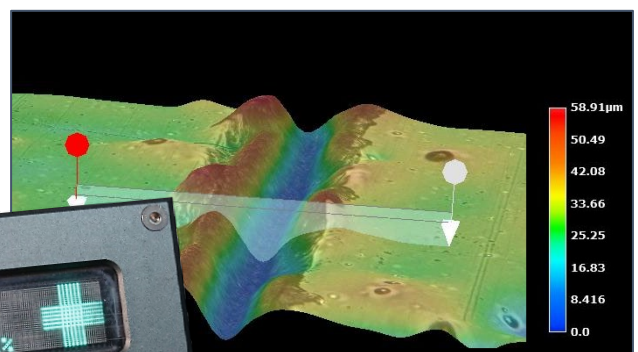
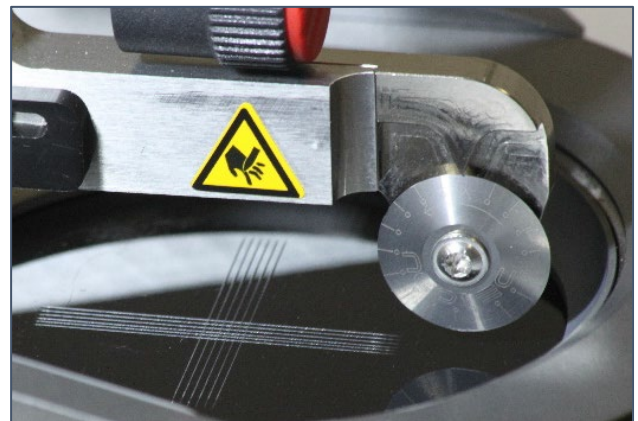
Contact pins

During the cutting process, the indicator shows whenever the blade cuts through the substrate. For this process special steel tips are used, which penetrate the surface of the metal substrate. This is done automatically by releasing the handle.



Cutting blade

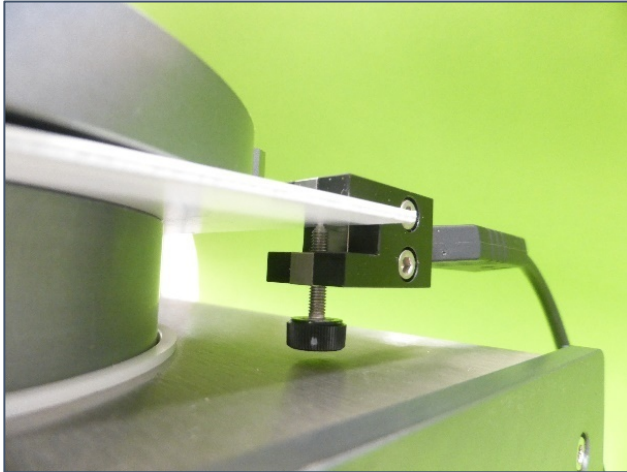
The long-lasting carbide blade has 18 laser-engraved indices and can be rotated to cut patterns with a sharp section whenever needed. For turning the cutting blade to the next position, the *safety blade tool* is used. The Cross Hatch Cutter also stores the number of cuts made and can be reset in the menu after turning or replacing the blade.



Laboratory measurement
100% cut-through

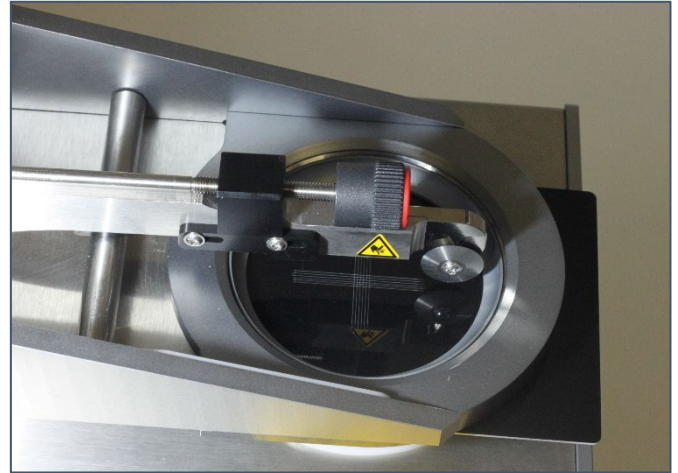
Contact plug

When the metal substrate is coated on two-sides, an additional *contact plug* can be used to penetrate the coated layer. With this option, the user can still see when the blade cuts through the substrate layer.



Process

The machine cuts a precise pattern through the applied layer. Afterwards, the adhesion is measured by an operator using a tape test to further examine the paint or coat quality.

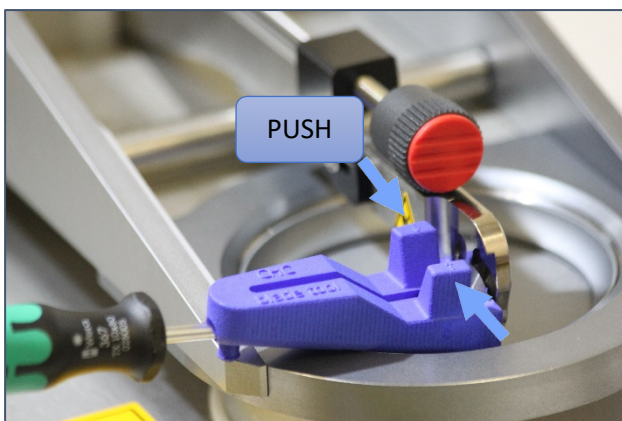


Safety

The Cross Hatch Cutter is designed and built to meet current European CE regulations.



The safety cover will prevent the user from touching the blade during the cutting process. The carbide metal cutting blade is safe and easily replaceable using the supplied *blade tool*.



Spare parts

NeoTec can deliver additional and spare parts, and also custom parts. For more information, please contact the manufacturer.

Benefits

- High precision, reproducible, fast, safe;
- Applies 19 standard patterns fully automatically onto a substrate;
- Automatic substrate detection and substrate lighting;
- Cutting pressure adjustment;
- World's first cut through layer indicator with average **"cut-through" statistic** after each cut pattern! (optional);
- Suitable for a wide range of materials of Possibility to incorporate different tools (including custom tools) and/or pattern(s);
- Complete package delivery with all necessary accessories.

Design

The Cross Hatch Cutter is designed to meet the following standards and able to cut the associated patterns:

- DIN/NEN-EN-ISO-2409 (classification 0-5)
replaces JIS K 5600-5-6
replaces VDA 621-411
replaces SNV 37111
- Boeing BSS 7225F (type I class 2-5)
- ASTM D 3359 (classification 0B-5B)

The machine can be used for the following processes:

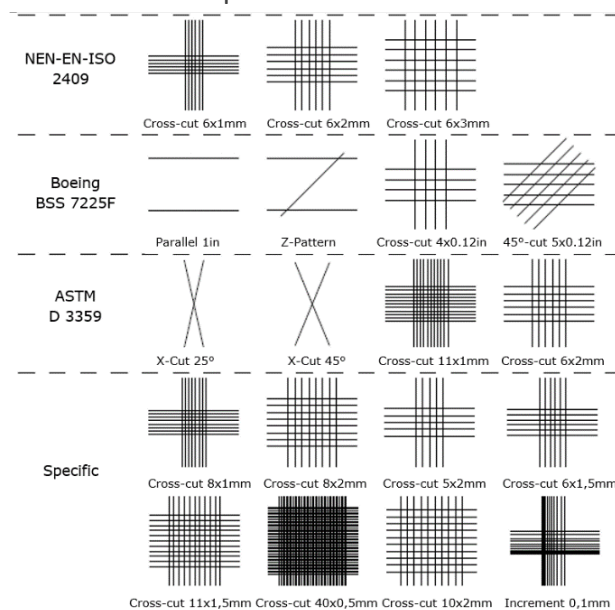
- Cross hatch cut
- Scratch hardness
- Scratch resistance
- Writing effect

Included for the Cross-cut test:

- Calibrated automatic cross hatch cutter
- Laser engraved carbide cutting blade
- Safety blade tool
- Brush + magnification glass (3x)
- Operators manual and quick start guide

Patterns

The device is able to cut from selecting one of the available 19 patterns.



Standard:	Pattern:	Layer thickness:
DIN/NEN-EN-ISO-2409 (JIS K 5600-5-6) (VDA 621-411)	6x1mm @ 90° Cross-cut	up to 60 µm
	6x2mm @ 90° Cross-cut	up to 60 µm
	6x2mm @ 90° Cross-cut	61 µm up to 120 µm
	6x3mm @ 90° Cross-cut	121 µm up to 250 µm
Boeing BSS 7225F	Parallel 1 inch	
	Parallel + 45° (Z)	
	4x0.12in @ 90° Cross-cut	
	5x0.12in @ 45° Cross-cut	
ASTM D 3359	X-cut 25°	
	X-cut 45°	
	11x1mm @ 90° Cross-cut	up to 50 µm
	6x2mm @ 90° Cross-cut	50 up to 125 µm
Specific	8x1mm	up to 60 µm
	8x2mm	over 60 µm
	5x2mm @ 90° Cross-cut	up to 50 µm
	6x1.5mm	
	11x1.5mm	
	40x0.5mm	
	10x2mm	
	0.1-1.1mm (increment 0.1mm)	

Technical specifications:

Power supply	[VAC]: 230/50Hz 115/60Hz
Consumption	[W]: ~8.5
Dimensions	[mm]: 520x250x320 [in]: 20.5x9.8x12.6
Weight	[kg]: ~20 [lbs]: ~44

Instrument

Substrate dimension [mm]:	100 to 200x200
	[in]: >3.9x3.9 to 8x8
Substrate thickness [mm]:	1 - 15
	[in]: 0.04 - 0.6
Knife pressure indicator [N]:	4 - 40
Cutting length [mm]:	~28 - 38
	[in]: ~1.1 - 1.75
Cutting speed [mm/s]:	~28
	[in/s]: ~1.1

Optional:

High speed	[mm/s]: ~55
model	[in/s]: ~2.2

For special requests: contact manufacturer

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