



User Manual

PCE-CRC 10 Surface Tester



User manuals in various languages (Deutsch, français, italiano, español, português, nederlands, türk, polski, русский , 中文) can be downloaded here:

www.pce-instruments.com

Last change: 20 December 2016
v1.0



Contents

1	Safety notes	1
2	Test procedure	2
3	Analysis	3
4	Warranty	4
5	Disposal	4

1 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The device must only be used with accessories from PCE Instruments or equivalent. Otherwise, PCE Instruments does not grant any warranty or assume any liability for defects or damage.
- Do not make any technical changes to the device.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.

2 Test procedure

1. Place the cross-cut tester on the test object, apply soft pressure and pull the device towards yourself in even movements in order to make parallel cuts with a length of approx. 20 mm. Apply enough pressure to make sure that you reach the next layer or carrier material.
2. Place the cutting tool on the sample at 90° to the first cut and repeat step 1 to create a lattice pattern on the coating (Figure 1).
3. Use a brush to remove dirt from the lattice and inspect to ensure the cuts have penetrated all the way through the coating (Figure 2).
4. Remove and discard two complete turns of adhesive tape. Remove an additional length of tape at a steady rate and cut a piece approximately 75 mm from this length.
5. Place the turns in the middle of the lattice and use a pencil eraser to straighten the adhesive tape. (Image 3)
6. Remove the adhesive tape carefully in a 180° angle. (Image 4)
7. Analysieren the result.
8. Repeat the test in two more positions.

Note: If you would like more information on this test method, please have a look at the relevant standard (ISO/ASTM).

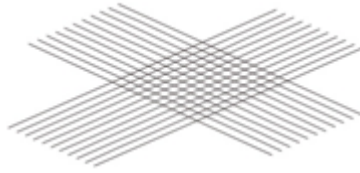


Figure 1



Figure 2



Figure 3

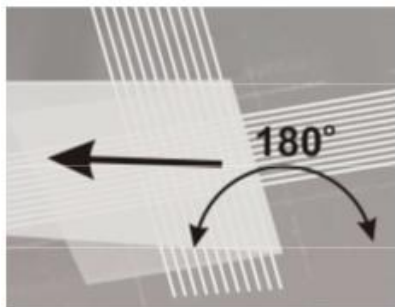
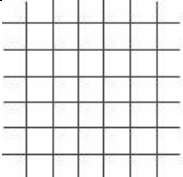
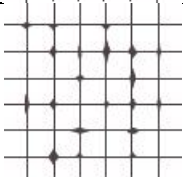
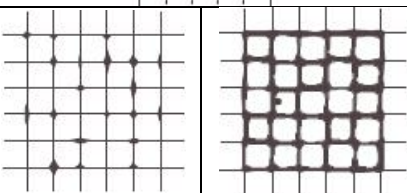
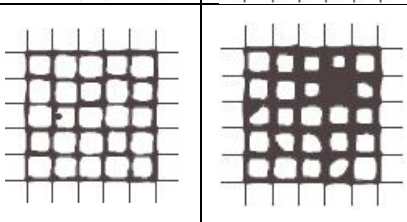
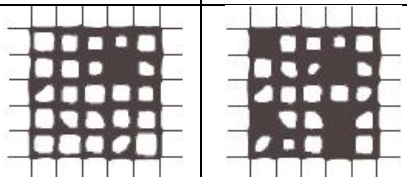
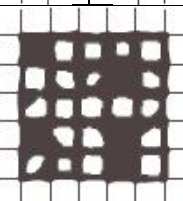


Figure 4

3 Analysis

Coating adhesion can be assessed by comparing the lattice of cuts with ASTM or Corporate Standards. The ASTM standards are reproduced in the following table.

	<p>The edges of the cuts are completely smooth; none of the squares of the lattice is detached.</p>	0	5B
	<p>Detachment of flakes of the coating at the intersections of the cuts. A cross cut area not significantly greater than 5% is affected.</p>	1	4B
	<p>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.</p>	2	3B
	<p>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.</p>	3	2B
	<p>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.</p>	4	1B
	<p>Any degree of flaking that cannot be classified even by classification 4 (1B).</p>	5	0B



4 Warranty

You can read our warranty terms in our General Business Terms which you can find here: <https://www.pce-instruments.com/english/terms>.

5 Disposal

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.





PCE Instruments contact information

Germany

PCE Deutschland GmbH
Im Langel 4
D-59872 Meschede
Deutschland
Tel.: +49 (0) 2903 976 99 0
Fax: +49 (0) 2903 976 99 29
info@pce-instruments.com
www.pce-instruments.com/deutsch

France

PCE Instruments France EURL
76, Rue de la Plaine des Bouchers
67100 Strasbourg
France
Téléphone: +33 (0) 972 3537 17
Numéro de fax: +33 (0) 972 3537 18
info@pce-france.fr
www.pce-instruments.com/french

Spain

PCE Ibérica S.L.
Calle Mayor, 53
02500 Tobarra (Albacete)
España
Tel. : +34 967 543 548
Fax: +34 967 543 542
info@pce-iberica.es
www.pce-instruments.com/espanol

United States of America

PCE Americas Inc.
711 Commerce Way suite 8
Jupiter / Palm Beach
33458 FL
USA
Tel: +1 (561) 320-9162
Fax: +1 (561) 320-9176
info@pce-americas.com
www.pce-instruments.com/us

United Kingdom

PCE Instruments UK Ltd
Units 12/13 Southpoint Business Park
Ensign Way, Southampton
Hampshire
United Kingdom, SO31 4RF
Tel: +44 (0) 2380 98703 0
Fax: +44 (0) 2380 98703 9
info@industrial-needs.com
www.pce-instruments.com/english

Italy

PCE Italia s.r.l.
Via Pesciatina 878 / B-Interno 6
55010 LOC. GRAGNANO
CAPANNORI (LUCCA)
Italia
Telefono: +39 0583 975 114
Fax: +39 0583 974 824
info@pce-italia.it
www.pce-instruments.com/italiano

The Netherlands

PCE Brookhuis B.V.
Institutenweg 15
7521 PH Enschede
Nederland
Telefoon: +31 (0) 900 1200 003
Fax: +31 53 430 36 46
info@pcebenelux.nl
www.pce-instruments.com/dutch

Chile

PCE Instruments Chile SA
RUT 76.423.459-6
Calle Santos Dumont N° 738, Local 4
Comuna de Recoleta, Santiago, Chile
Tel. : +56 2 24053238
Fax: +56 2 2873 3777
info@pce-instruments.cl
www.pce-instruments.com/chile

Hong Kong

PCE Instruments HK Ltd.
Unit J, 21/F., COS Centre
56 Tsun Yip Street
Kwun Tong
Kowloon, Hong Kong
Tel: +852-301-84912
jyi@pce-instruments.com
www.pce-instruments.cn

China

Pingce (Shenzhen) Technology Ltd.
West 5H1,5th Floor,1st Building
Shenhua Industrial Park,
Meihua Road,Futian District
Shenzhen City
China
Tel: +86 0755-32978297
lko@pce-instruments.cn
www.pce-instruments.cn

Turkey

PCE Teknik Cihazları Ltd.Şti.
Halkalı Merkez Mah.
Pehlivan Sok. No.6/C
34303 Küçükçekmece - İstanbul
Türkiye
Tel: 0212 471 11 47
Faks: 0212 705 53 93
info@pce-cihazlari.com.tr
www.pce-instruments.com/turkish