

## OPTICAL INSPECTION TOOLS

QC-inspections in the surface treatment and protective coatings industry are often performed with accurate and sophisticated measuring instruments. In many cases however, a profound visual inspection carried out by an experienced inspector is crucial. TQC supplies a comprehensive range of inspection tools and instruments for these kind of inspections.

## INSPECTION MIRRORS

Ideal for visual inspection of hard-to-reach spots. Spots that are difficult to inspect are even more difficult to blast or coat. With a simple inspection mirror a visual inspection behind stiffeners, under- or on top of I-beams or other awkward places is easy to perform.

Art.no.	<b>LD3004</b> Compact telescopic Mirror	<b>LD3025</b> Robust telescopic Mirror
<b>Diameter Mirror (mm)</b>	Ø 31	Ø 51
<b>Length in / out (mm)</b>	in 130 / out 455	in 254 / out 375
<b>Materials</b>	Glass / metal	Glass / metal
<b>Weight (gr)</b>	40	100



## SPECIAL LIGHTING

Visual inspections demand proper lighting. Dependent on the circumstances the need for light can vary from extremely bright or just moderate direct light, floodlight, white light or UV etc.

**General Inspections:** Standard LED or halogen illumination

**Surface cleanliness or pinhole detection:** UV-LED illumination

**Color testing:** Artificial daylight

Art.no.	<b>DI0055</b> Mag-Charger-System	<b>DI0035</b> LED pocket flashlight	<b>LD7290</b> TQC UV flashlight	<b>DI0080</b> power LED	<b>LD7220</b> UV inspection spotlight
<b>Bulb type</b>	Halogen LED	Cree Q4	Edixeon UV LED	Power LED 450 mW	UV LED
<b>Light color</b>	white	white	Ultraviolet 410 NM	white	Ultraviolet 365 NM
<b>Dimensions (mm)</b>	320 x 70	118 x 26	126 x 32	147 x 37 x 21	160 x 45 x 25
<b>Weight</b>	700	73	76	135	190
<b>Power</b>	220V	3 x AAA	3 x AAA	Li-ion rechargeable One-cell, 3.7V battery	One-cell, 3.7V 2600mah rechargeable Li-ion
<b>Accessories</b>	12V vehicle charger, wall holder	Pouch, Wrist strap	Pouch, wrist strap	AC/DC switch-power charger, DC vehicle charger, charger barrel, battery compartment, holster and lanyard	UV protective glasses, Li-ion battery, battery charger, carrying case



DI0055



DI0035



LD7290



DI0080



LD7220

## SURFACE MICROSCOPES

Surface cleanliness, marks, pinholes, fish-eyes, delaminating, cracks and many other coating defects require further investigation to find their cause. A portable microscope allows the inspector to examine coating defects right on the spot. Some microscopes are equipped with a reticle so direct measurements can be made.

Art. No	LD6169 Surface Microscope	LD6170 Surface Microscope	LD6172 Surface Microscope	LD6174 Surface Microscope
Magnification	10x	20x	60x	100x
Field of view (mm)	20	10	2	0.6
Measuring scale/reticle	Yes 0.1 mm	Yes 0.1 mm	Yes 0.02 mm	Yes 0.01 mm
Illuminated	Yes	Yes	Yes	Yes
Focusable	Yes	Yes	Yes	Yes
Optical material	Glass	Glass	Glass	Glass
Body material	Plastic	Aluminum	Aluminum	Aluminum
Dimensions (mm)	45 x 45 x 45	175 x 90 x 55	175 x 90 x 55	175 x 90 x 55
Weight (gr)	100	370	370	370
Accessories	Soft cover	Hardcase	Hardcase	Hardcase
Options		-	-	--

LD6169



LD6170  
LD6172  
LD6174



LD6205



LD6156



LD6152  
LD6154



An optional camera adapter that is available for certain models allows to make clear digital images which are ideally to illustrate inspection reports or to discuss a defect with other parties.

LD6205 Surface Microscope	LD6156 Surface Microscope	LD6152 Surface Microscope	LD6154 Surface Microscope
40x	25x	20x	50x
2	7.2	9	3.6
Yes 0.05 mm	Yes 0.05 mm	Yes 0.05 mm	Yes 0.02 mm
Yes	Yes 3x LED, dimnable and switchable	Yes	Yes
Yes	Yes	Yes	Yes
Plastic	Glass	Glass	Glass
Plastic	Plastic / Aluminum	Plastic / Aluminum	Plastic / Aluminum
135 x 50 x 40	220 x 50 x 40	194 x 60 x 40	180 x 60 x 40
110	340	300	300
Soft cover	-	Soft cover	Soft cover
-	Digital camera adapter (LD6157)	Digital camera adapter (LD6155)	Digital camera adapter (LD6155)

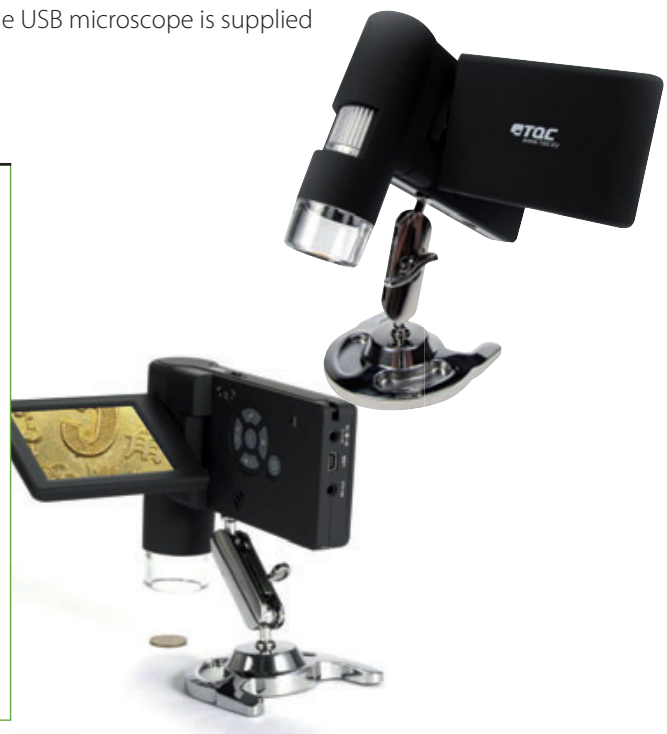
## USB MICROSCOPE LD6184

Small, portable, inexpensive and easy microscope with LCD display that can be connected directly to a PC. Supplied with software for immediate inspection and measuring.

The 20X-200x magnification (500x by digital) is ideal for analyzing coating failures, imperfections, pre-treatment quality etc. The microscope can be used in direct contact to the surface or at larger distances. With the software, you can determine the length, width, height and angle to the radius of the objects. The USB microscope is supplied with a magnetic microscope holder..

### TECHNICAL SPECIFICATIONS

Image sensor	5M high quality image sensor
Magnification	20x-200x-500x
Resolutions	12M, 8M, 5M, 3M, 1.3M, VGA
Lens	High quality microscopic lens
Display	3 inch TFT panel, 4:3 ratio
Light sources	8 LED's with adjustable brightness
Power sources	Li-ion 3.7V / 800mAh battery
Working time	4 hours (charging time 5 hours)
Frame rate	30fps
Adaptor	Input: 100-240V, 50/60Hz – Output: 5V, 1A
OSD languages	English/German/French/Spanish/Italian/ Portuguese/Japanese/Chinese
Software languages	English/German/French/Spanish
Measurement	by software
Dimensions	130x130x29mm



## COATING DEFECT IDENTIFICATION LABELS

Imperfections or problems found during inspections of coating work usually require attention of second or third parties after they have been found.

A second opinion of the paint supplier, witnessing of counter parties or just the attention of a repair crew. In each case it is important the above mentioned spots are easily found back, also when the original inspector is not around anymore. Large structures such as ships, bridges and steel construction but also poorly lit areas such as tanks can cause problems in that respect. How, for example, would you describe the exact location of a number of small pinholes, hardly visible (or even non-visible) with the naked eye in a 5000 square meter tank bottom?

For recordkeeping often pictures of the problems found are being taken. Including the TQC CDI label in the photograph retrieves immediately the dimensions of the defects and the writable area on the label offers the possibility to add extra information to the photograph. In a serial production environment the CDI labels can be used to identify parts for rework or scrap.

**Material:** Fluorescent yellow semi-permanent adhesive with non-stick pull-tab

**Dimensions sticker:** 30 x 63 mm

**Dimensions box:** 50 x 105 x 105 mm

**Stickers in box:** 250 pieces

Art.no.	
SP0050	TQC Coating Defect Identification label



## WWW.TQC.EU



The products in this brochure are just a small selection of our comprehensive range of inspection equipment and instruments. Please visit our website [www.tqc.eu](http://www.tqc.eu) for a complete overview, or order your free hardcopy catalogue by completing the form on [cat.tqc.eu](http://cat.tqc.eu)



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