



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.

Article no.:	LD3004 Compact telescopic Mirror	LD3025 Robust telescopic Mirror
Diameter Mirror (mm)	Ø 31	Ø 56
Length in / out (mm)	in 130 / out 455	in 254 / out 375
Materials	Glass / metal	Glass / metal
Weight (gr)	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

Article no.:	DI0055 Mag-Charger-System	DI0034 X1 pocket flashlight	LD7215 X5 UV flashlight	DI0065 power LED	LD7225 UV inspection lantern	VF0550 Colour matching lamp
Bulb type	Halogen	LED	5x LED	Power LED	7x Cree LED	Halogen
Light color	white	white	Ultraviolet 395 NM	white	Ultraviolet 390 NM	Daylight
Dimensions (mm)	320 x 70	100 x 20	120 x 20	147 x 37 x 21	210 x 100 x 190	110 x 80 x 270
Weight	700	80	100	135	1200	1000
Power	220V	Penlight AA	Battery pack of 2, CR123A (3V)	Li-ion rechargeable battery 3.7V	Lead-acid Re, 12V adapter and 230V 50Hz euro plug adapter	Rechargeable batteryj 12V
Accessories	12V vehicle charger, wall holder	Wrist strap	Hard case, wrist strap	AC/DC switch-power charger, DC vehicle charger, charger barrel, battery compartment, holster and lanyard	Hard case, yellow safety glasses, mains and 12V adapter	Hard case, mains adapter, battery and charger





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.

Article no.:	DI0350 <i>Focusable Magnifier</i>	LD6169 <i>Surface Microscope</i>	LD6170 <i>Surface Microscope</i>	LD6172 <i>Surface Microscope</i>	LD6174 <i>Surface Microscope</i>
Magnification	8x	10x	20x	60x	100x
Field of view (mm)	20	20	10	2	0.6
Measuring scale/reticle	Yes 0.1 mm	Yes 0.1 mm	Yes 0.1 mm	Yes 0.02 mm	Yes 0.01 mm
Illuminated	Yes	No	Yes	Yes	Yes
Focusable	Yes	Yes	Yes	Yes	Yes
Optical material	Plastic	Glass	Glass	Glass	Glass
Body material	Plastic	Plastic	Aluminum	Aluminum	Aluminum
Dimensions (mm)	130 x 50 x 40	45 x 45 x 45	175 x 90 x 55	175 x 90 x 55	175 x 90 x 55
Weight (gr)	100	100	370	370	370
Accessories	-	Soft cover	Hardcase	Hardcase	Hardcase
Options	-	-	-	-	-



DI0350



LD6169



LD6156



LD6200



LD6170
LD6172
LD6174



LD6152 / LD6154



LD6152 with LD6155



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

	LD6200 Surface Microscope	LD6156 Surface Microscope	LD6152 Surface Microscope	LD6154 Surface Microscope
	30x	25x	20x	50x
	2	7.2	9	3.6
	No	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
	140 x 40 x 20	220 x 50 x 40	194 x 60 x 40	180 x 60 x 40
	100	340	300	300
	Soft cover	-	Soft cover	Soft cover
	-	Digital camera adapter (LD6157)	Digital camera adapter (LD6155)	Digital camera adapter (LD6155)



USB MICROSCOPE LD6180

Portable and affordable lightweight microscope that can be connected to a PC through USB connection. The unique optical design combines a digital camera, precision optics and LED illumination into a microscope with a magnification factor of 40X and 140X. Even the smallest flaws in a surface can be made visible with this product. The special software that is supplied allows to store images and make short movies. Further the software calculates dimensional parameters such as length, angle, radius, height etc.

Technical specifications

Image Sensor	CMOS Sensor
Magnification	40x & 140x
Video Capture resolution	640x480, 352x288, 340x240, 176x144, 160x120
Foto Capture resolution	640x480
Shutter Speed	Automatic
Compression	Fixed data Rate hardware Interface. Compressieverhouding: 4:1, 6:1, 8:1
Video data format	RGB24
Power	USB interface
PC Interface	USB 1.1
Video speed	30fps @ CIF (320x240) 12,5fps @ VGA (640x480)
Snapshot button	hardware
Software supports	Win 98, Win 2000, Win CE, Win XP





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?

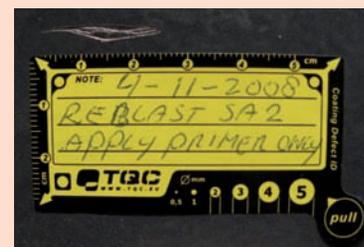
For recordkeeping often pictures of the problems found are being taken. Including the TQC CDI label in the photograph retrieves immediately the dimensions of the defects and the writable area on the label offers the possibility to add extra information to the photograph. In a serial production environment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

Material: Fluorescent yellow semipermanent adhesive with non-stick pulltab

Dimensions sticker: 30 x 63 mm

Dimensions box: 50 x 105 x 105 mm

Stickers in box: 250 pieces



SPO050 - TQC Coating Defect Identification label



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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 for a complete overview.

For more information mail us at info@tqc.eu or please contact your local TQC dealer:

