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Living up to Life



The statement by Ernst Leitz in 1907, "With the User, For the User," describes the fruitful collaboration with end users and driving force of innovation at Leica Microsystems. We have developed five brand values to live up to this tradition: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement. For us, living up to these values means: **Living up to Life.**

Leica Microsystems operates globally in three divisions, where we rank with the market leaders.

LIFE SCIENCE DIVISION

The Leica Microsystems Life Science Division supports the imaging needs of the scientific community with advanced innovation and technical expertise for the visualization, measurement, and analysis of microstructures. Our strong focus on understanding scientific applications puts Leica Microsystems' customers at the leading edge of science.

INDUSTRY DIVISION

The Leica Microsystems Industry Division's focus is to support customers' pursuit of the highest quality end result. Leica Microsystems provide the best and most innovative imaging systems to see, measure, and analyze the microstructures in routine and research industrial applications, materials science, quality control, forensic science investigation, and educational applications.

MEDICAL DIVISION

The Leica Microsystems Medical Division's focus is to partner with and support surgeons and their care of patients with the highest-quality, most innovative surgical microscope technology today and into the future.

Leica Microsystems – an international company with a strong network of worldwide customer services:

Active worldwide	Tel.	Fax
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Austria - Vienna	+43 1 486 80 50 0	1 486 80 50 30
Belgium - Diegem	+32 2 790 98 50	2 790 98 68
Canada - Concord/Ontario	+1 800 248 0123	847 405 0164
Denmark - Ballerup	+45 4454 0101	4454 0111
France - Nanterre Cedex	+33 811 000 664	1 56 05 23 23
Germany - Wetzlar	+49 64 41 29 40 00	64 41 29 41 55
Italy - Milan	+39 02 574 861	02 574 03392
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Korea - Seoul	+82 2 514 65 43	2 514 65 48
Netherlands - Rijswijk	+31 70 4132 100	70 4132 109
People's Rep. of China - Hong Kong	+852 2564 6699	2564 4163
- Shanghai	+86 21 6387 6606	21 6387 6698
Portugal - Lisbon	+351 21 388 9112	21 385 4668
Singapore	+65 6779 7823	6773 0628
Spain - Barcelona	+34 93 494 95 30	93 494 95 32
Sweden - Kista	+46 8 625 45 45	8 625 45 10
Switzerland - Heerbrugg	+41 71 726 34 34	71 726 34 44
United Kingdom - Milton Keynes	+44 800 298 2344	1908 246312
USA - Buffalo Grove/Illinois	+1 800 248 0123	847 405 016

Cleaning of Microscope Optics



1 Considerations before cleaning

Which image quality do you expect?

Optimize all microscope settings:

Aperture, Köhler, correction ring, etc.

Check your specimen

I Use standard with proven quality

II Use cleaned specimen

Check slide and cover glass

Check immersion medium

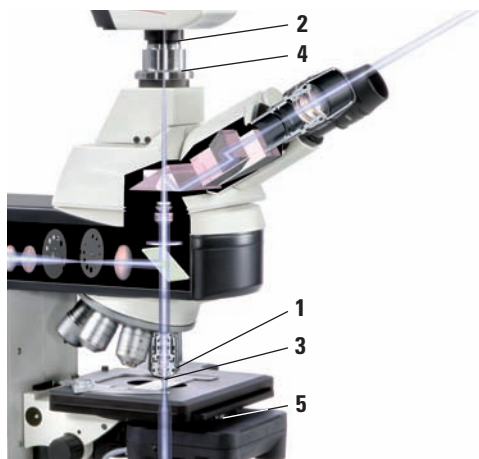
I Same type as embedding medium of specimen

II Is immersion medium from the same lot?

III Only use recommended types

IV No Anisol

2 Where to clean and where not



Where to clean

1 Front lens of objective

2 Cover glass of camera sensor

3 Cover slip and specimen slide

4 C-mount

5 Condenser lens

6 Misc. glass surfaces

Where not to clean

I Filter cubes

II All inside optics of a microscope

3 How to locate dirt

Turn camera and inspect image

I If dirt is turning in the image → not located in camera

II If dirt stays → camera

Turn objective, condenser, C-mount

I If dirt is turning with image → objective, condenser, etc.

Control the relevant elements macroscopically

I Magnifying glass or oculars upside down

Front lens

I Turn it

II Look from the back against a bright background

4 Different kinds of dirt

Loosely or not permanently attached dirt

I Glass (broken slides, cover slips, etc.)

II Skin, dander

III Pollen, etc.

Attached dirt

I Water soluble

II Solvent soluble

III In practice often a mixture

5 How to clean

Aim of cleaning

I Complete elimination of dust and dirt for perfect image quality

II No remaining residues on the optical parts

III No damage of optical parts

General procedure

I Locate dirt

II Inspect dirt

III Remove dust

IV Remove water soluble dirt

V Remove solvent soluble dirt

VI Inspect result

VII Repeat from III to VI if necessary

Remove dust

I If possible do it manually

II Only use specified compressed air
a Contamination with oil may cause difficulties to remove residues

III Perfect tool: bellows



Remove attached dirt

I Never use rubbing materials, papers, microfibre cloths

II Never clean dry

III Always start to clean water soluble dirt

a If you can see grease start with solvents

IV All solvents for cleaning should be absolutely clean

a PA solvents (ultra pure)

b Distilled or demineralized water

c No ammonium containing glass cleaner like Sidolin, Sparkle, etc.

V All tools should be absolutely clean

a Use certified wound cotton sticks and dental cotton pads to avoid lint (no Q-tips or similar!)

Remove water soluble dirt

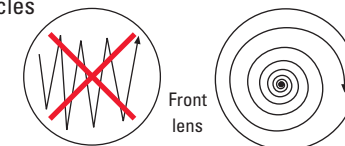
I Use only clean, deionised water

a Simple method: breathe upon the surface

II Use a cotton stick

a Clean from the centre toward the edge in concentric circles

III Inspect result



Remove solvent soluble dirt

I Use ultra pure solvents

a Ethanol PA

b Acetone PA (be careful, may harm plastics and objective labels)

II Use a cotton stick, dental cotton pad

a Cotton stick and cotton pad should only be moist, not dropping wet

b Clean from the centre toward the edge in concentric circles

III Inspect result

IV Still smudgy?

a Combine the methods: breathe upon the surface and clean with cotton stick and acetone

Leica Optics Cleaning Kit

Order number **11505508**