

MICROWEB®-UDG-0

**CLEAR
CLEAN®**

ultra-dense micro-knit for precision cleaning of smooth surfaces

Made in Germany

This wiping cloth is knitted on a circular knitting machine using bicomponent filament yarn. The single fibrils are below 10 µm in thickness so that 1000 km of them weigh only 25 g. Next, following the knitting, the material is shrunk by about 40% in a chemical process. The result is an extremely dense cloth with outstanding cleaning effectiveness. After the shrinking process, this extraordinary material has a density of approximately 13 000 filaments per cm². The MICROWEB®-UDG-0 wiper is mainly used for the time-saving, residue-free removal of thin layers of grease from glass and ultra-polished surfaces. The wiper can also remove submicron particles from such surfaces. Although in its undecontaminated state the wiping cloth contains relatively few particles, it may be submitted to a decontamination process to meet extremely high standards of cleanliness. Due to laser-based edge formatting, the surfaces and edges are meeting purity requirements equally well.



This 90 times enlarged micro-image taken with our scanning electron microscope distinctly reveals the extremely high fibre density of this top-quality knitted fabric. The bicomponent yarn with the orange profile consists of a polyamide matrix with embedded polyester segments. Next, in a chemical process, the polyamide and the polyester segments are separated from each other. The result is a multifilament yarn in which each single filament has several fibrils. Because the “feel” of the textile is determined by the amount of polyester used, the fabricated textile has a silky character with a surface density unmatched by textiles with other materials.

Characteristics

knitware , bicomponent micro-filaments, laser cut edges

Features

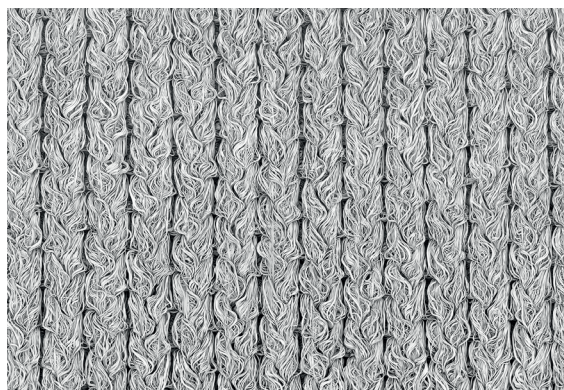
outstanding cleaning efficacy for smooth surfaces, low particle release

Application

as a precision wiper for smooth and polished surfaces like prisma, lenses and mirrors made from glass or metal

General technical specification

Textile construction	knitware	
Mesh / cm ²	900	
Cutting	laser beam	
Possible decontamination	aquatic, organic	
Decontaminated	no	
Washable	possible	
Sterilisable	possible	
Stat. Quality control	by request	



SEM photo Yuko Labuda, image height 3 mm

General technical data

Mechanical parameters	Value	Unit	After method
Thickness	0.33	mm	ISO 9073-2
Surface weight	151	g/m ²	ISO 9073-1
Break load dry, longitudinal direction	485	N	ISO 9073-3
Break load dry, lateral direction	213	N	ISO 9073-3
Elongation at break, longitudinal direction	99	mm	ISO 9073-3
Elongation at break, lateral direction	171	mm	ISO 9073-3

Particle release data	Value	Unit	After method
Labuda-Cleaning efficacy based on oil film MULTIDRAW KTL N 16	93.8	%	C&C-W-RE
Particle residue (Particle > 0.5 µm) after wiping on surface Rz 5 µm	3.52	k-Part/cm ²	C&C-W-PF-S
Particle residue (Particle > 0.5 µm) after wiping on surface Rz 39 µm	6.4	k-Part/cm ²	C&C-W-PF-S
Air particle release (at 40% relH) by Labuda Fulling Simulator Mk1	104	Part 0.5 µm/ min	
Cleanroom class according to ISO 14644-1	Cleanroom consumables cannot be specified for air purity classes (see VDI 2083 - sheet 9.2).		

Water absorption (DI water)	Value	Unit	After method
Total	236.8	g/m ²	
Average absorption rate in 5 s	0.07	g	C&C-W-AK-R
Average absorption rate in 60 s	0.2	g	C&C-W-AK-R
Drop absorption time	15550	ms	C&C-W-EZ
DI-Water after wet wiping	82	%	C&C-W-RF

Chemical resistance	Value	Unit	After method
Charge of break-load (long) after 2.5 min immersion into various solvents			
Dry	485	N	C&C-W-CF
Water	-13	%	C&C-W-CF
Isopropyl	+3	%	C&C-W-CF
Acetone	-5	%	C&C-W-CF

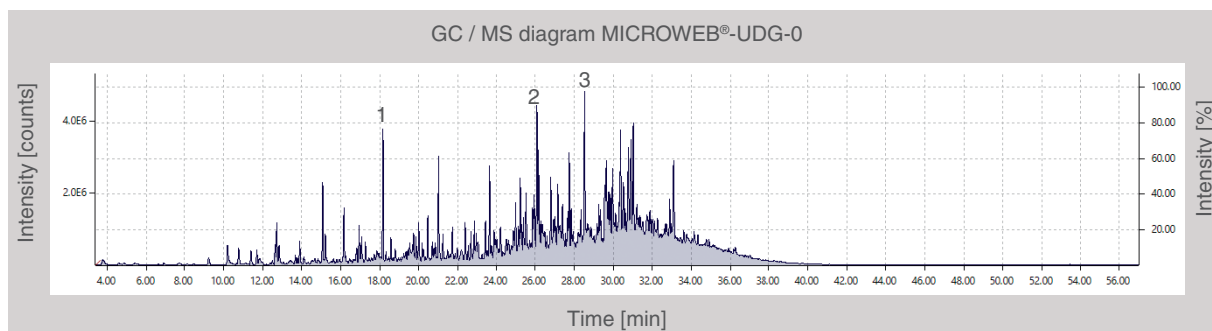
Triboelectricity at 40% relH and room temperature	Value	Unit	After method
Discharge after 60 s	14.7	%	CC-W-TE

Anion and cation inventory in ppm measurement with capillary electrophoresis

Chloride	Fluoride	Nitrate	Nitrite	Phosphate	Sulphate		
0.554	0.369	0.072	-	0.032	0.463		
Ammonium	Barium	Calcium	Potassium	Lithium	Magnesium	Sodium	Strontium
0.136	-	0.354	0.119	-	-	4.526	-

All data in this sheet are based on measurements taken at the time of their issuance. The publication of this document does not constitute a guarantee for the continued compliance with these data. On request, you will receive current data and tolerance limits from our laboratory. Subject to change without prior notice. Errors and omissions excepted. Clear & Clean is a company certified according to the EN ISO 9001 : 2015 standard. The quality assurance measures are described in our quality manual. When the data contained in this data sheet are changed, no automatic alteration is made. Clean room consumable products cannot be classified according to a clean room class for air purity according to ISO-14644-1.

MICROWEB® is a registered European Union trademark (No. 018305439) of Clear & Clean Werk für Reintechnik GmbH in Lübeck.



Outgassing at 90 °C 1: dodecane 2: dodecanol 3: tetradecana

Order and packing information / single packs MICROWEB®-UDG-0

Type	Dimensions in cm	Folding	Content pcs / pack	Packs per carton	Pieces per carton	Weight per carton in kg	Dimensions p. carton in cm
CC133	10 x 10	bulk pack	320	15	4800	9.0	50 x 30 x 30
CC134	25 x 25	flat pack	80	15	1200	13.0	50 x 30 x 30
CC135	20 x 20	flat pack	80	20	1600	11.0	50 x 50 x 30
CC137	40 x 40	flat pack	50	10	500	14.5	51 x 51 x 22

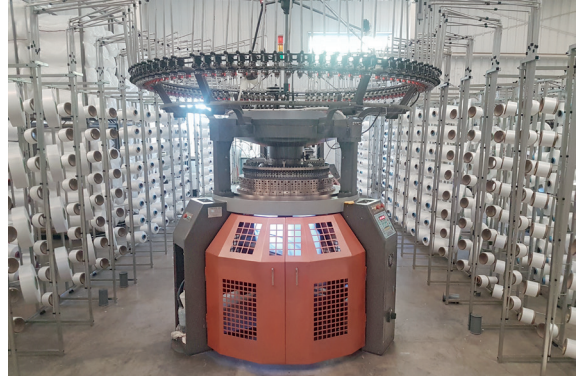
Order and packing information / special formats in roll form MICROWEB®-UDG-0

Type	Roll width in cm	Running length in m	Core diameter in mm	Rolls per carton	Weight per roll in kg	Dimensions p. carton in cm
CC130RL	6	50		1		

From yarn to hi-tech cleaning wipers



knitted multifilament yarn as roll goods



an industrial knitting machine



our laser formatting for knit wipers



Example: our aquatic decontamination



our visual inspection and packaging in the ISO 5 clean room



Example: cleaning optical components