

High frequency



- bed canopy for large-scale shielding of high-frequency electromagnetic waves
- maximum transparency and breathability ~100 %
- 100 % textile qualities, (B1-certifiable)
- double bed version (box form, very spacious)
- The double bed canopy Topas-BD consists of Topas-CS, an extremely light- and air-permeable, high-frequency-shielding knitting with absolute textile character and the only shielding textile to meet the highest fire protection standards. (Polyester B1-certifiable, of low flammability. Air- and light-permeability nearly 100 %, no CO₂ production.

Another advantage lies in protection from unpleasant flies and mosquitoes.

Assembly is simple as well as variable in width and height.

No electric devices may be operated within the canopy. Please maintain the required distance from the fabric to lamps, hot illuminants (melting), and walls (abrasion).

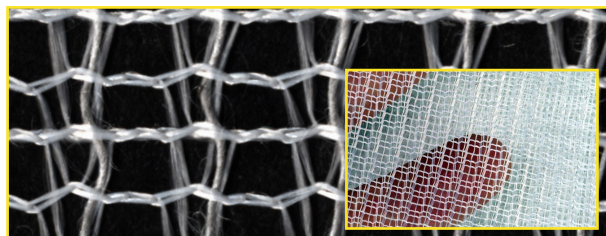
No evaporation or other chemical additives that may be harmful to your health.

With the Topas-ST canopy underlay, this canopy shields against low-frequency alternating electric fields even without earthing.

From experience, suitable for allergy sufferers.

Order-No.: 100024

Short-Desc.: Topas-BD



Included in the delivery:

- bed canopy incl. 8 x 2 suspension belts, sewn on length 100 cm (incl. 8 x dowels and 8 x hooks)
- 6 x wooden bars (spruce) - length 74 cm / Ø 25 mm
- 4 pcs. Plug-in sleeves

Bed canopy

Topas-BD (Double bed)

| Type | MHz | dB | in % |
|---------------|-------------|----|--------|
| DVB-T2 | 470 - 690 | 33 | > 99,9 |
| LTE / 5G wide | 700 - 750 | 33 | > 99,9 |
| GSM, LTE | 920 - 960 | 28 | > 99,0 |
| GSM, LTE | 1800 - 1880 | 21 | > 99,0 |
| DECT | 1880 - 1900 | 21 | > 99,0 |
| LTE, 5G wide | 2110 - 2170 | 21 | > 99,0 |
| W-LAN 2400 | 2400 - 2500 | 19 | > 90,0 |
| 5G fast | 3400 - 3700 | 18 | > 90,0 |
| W-LAN 5200 | 5150 - 5350 | 12 | > 90,0 |

Technical data

| | |
|-----------------------|------------------------------------------------------------------|
| length: | 220 cm ± 2 % |
| width: | 220 cm ± 2 % |
| height: | 220 cm ± 2 % |
| colour: | white |
| accessibility: | left and right |
| mesh gauge: | about 1 mm x 1 mm (transparent) |
| composition: | 89 % polyester 9 % polyamide 2 % silver |
| base material: | Topas CS |
| features: | transparency, very good air exchange, high shielding attenuation |
| wash cycles: | ~ 25 x |
| certification: | fire protection class B1 certifiable, of low flammability |
| basis for inspection: | IEEE Standard 299™-97 |
| shield attenuation: | max. ~ 38 dB (> 99.9 %) |

Care instructions



wash very gently
(delicate or wool wash cycle at 30 °C)



gentle ironing at level 1
(ironing at a low temperature)



bleaching not permitted
no detergent with bleach



do not tumble dry

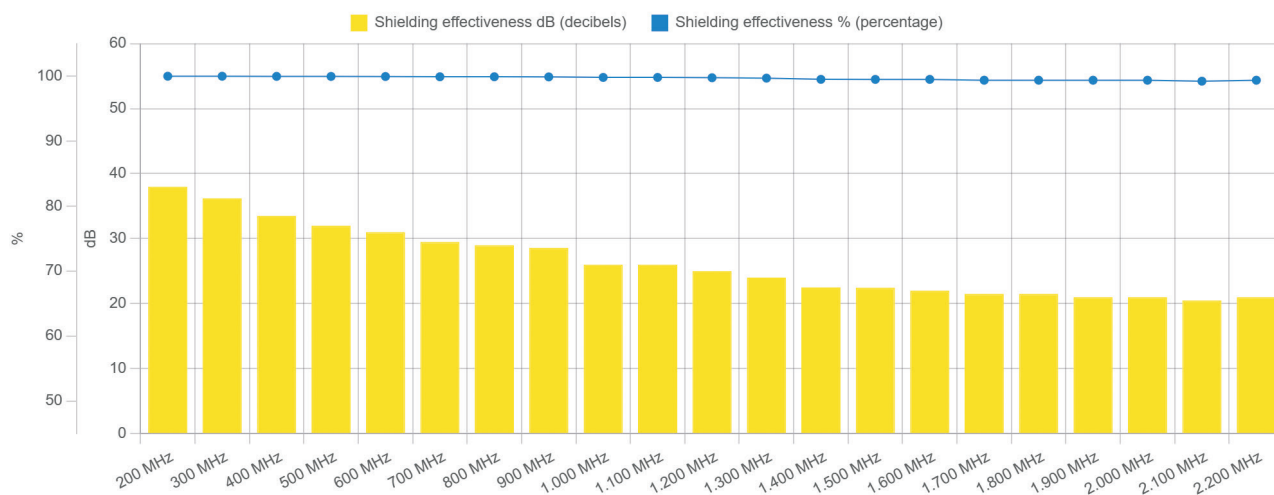


do not dryclean

| Type | MHz | Description |
|-------------------|-------------|--------------------------------------------------------------------------|
| DVB-T2 | 470 - 690 | digital video broadcasting – terrestrial, 2nd generation, TV via antenna |
| LTE / 5G wide | 700 - 750 | from 4G, now 5G NR without beamforming / MIMO |
| GSM, LTE | 920 - 960 | from 2G - D1, now 5G NR without beamforming / MIMO |
| GSM, LTE | 1800 - 1880 | from 2G - D2, E network, now 5G NR without beamforming / MIMO |
| DECT | 1880 - 1900 | wireless phone |
| LTE, 5G wide | 2110 - 2170 | from 3G, formerly UTMS, now 5G NR without beamforming / MIMO |
| W-LAN / WiFi 2400 | 2400 - 2500 | wireless LAN |
| 5G fast | 3400 - 3700 | 5G NR - New frequency band with beamforming / MIMO |
| W-LAN / WiFi 5200 | 5150 - 5350 | wireless LAN |

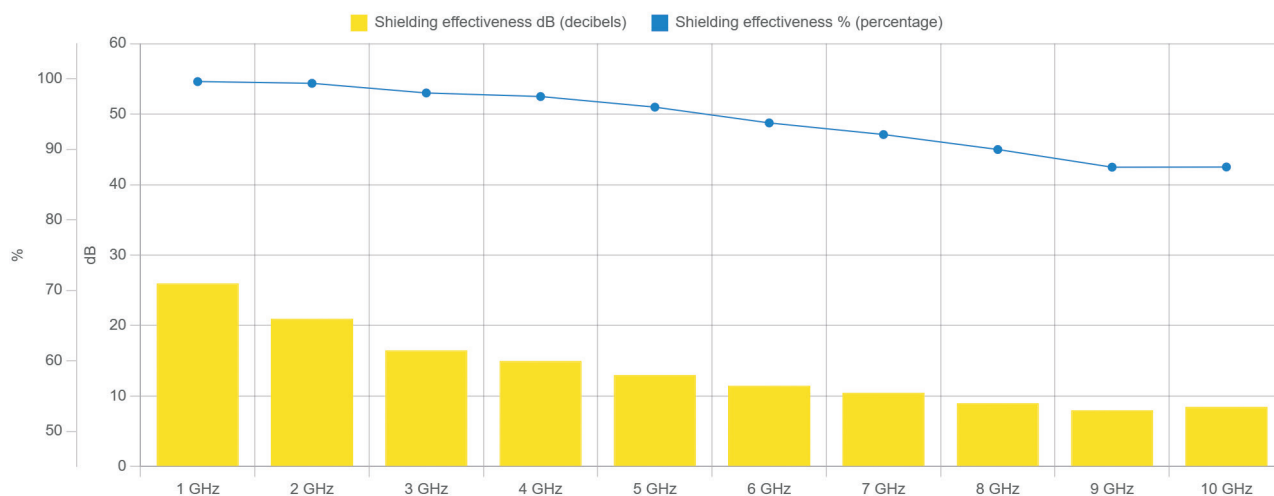
Shielding values: According to test report: Prof. Pauli., Universität der Bundeswehr München, HF-, Mikrowellen- und Radartechnik

Shielding effectiveness - Topas CS - 200 MHz to 2.200 MHz (2,2 GHz)



1.000 MHz = 1 GHz -/- (according to test report Prof. Dipl. Ing. Pauli)

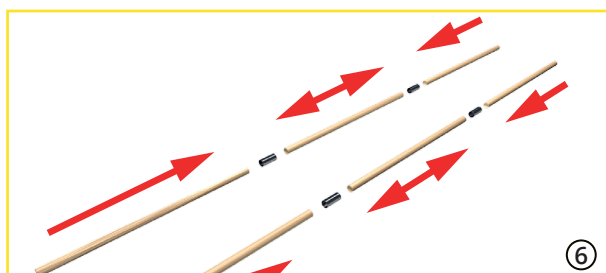
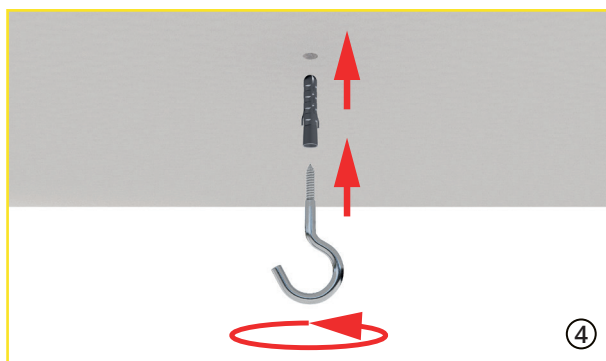
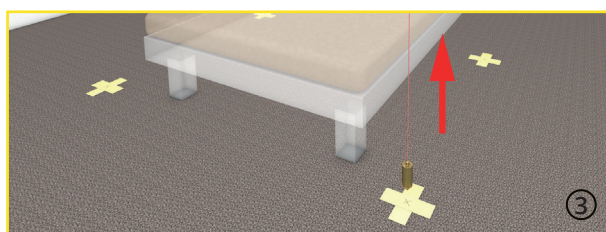
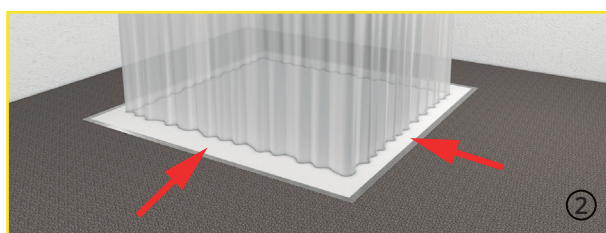
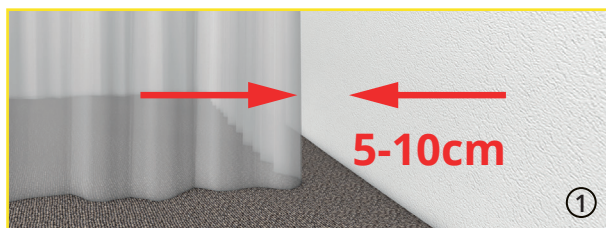
Shielding effectiveness - Topas CS - 1,0 GHz to 10 GHz



1.000 MHz = 1 GHz -/- (according to test report Prof. Dipl. Ing. Pauli)

Bed canopies

Mounting canopies



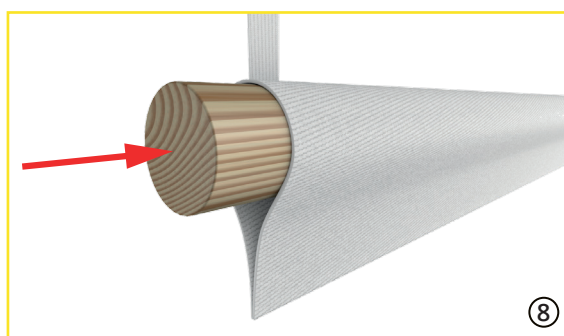
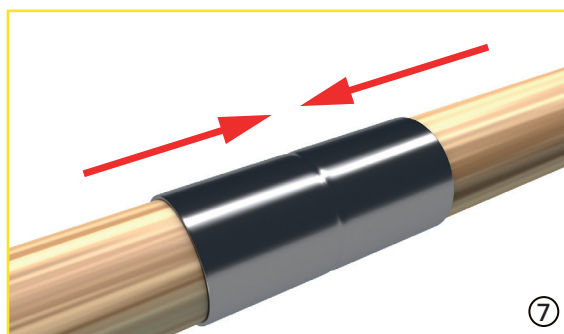
Preparations

1. Before mounting the bed canopies, please note the distances to be observed to avoid damage. See fig. 1.
2. If you use a canopy underlay, please also make sure that the side parts of the canopy rest on the floor mat. The canopy underlay can be protected with a thin carpet. The canopy area is always smaller than the area of the canopy underlay. See fig. 2.
3. For suspension, it is recommended to take the measurements of the canopy suspension on the floor and then transfer the markings to the ceiling according to the corresponding hole pattern. See fig. 3.

It may be useful to increase the distance between the holes in order to stretch the canopy a little. To vary the width of the canopy, reduce or increase the distance between the holes on the left and right. This can be done with a plumb bob or with a cross laser and the corresponding plumb and self-levelling function.

Mounting

1. Drill the holes with Ø 8 mm. Screw in the hooks until the thread disappears. See fig. 4.
2. Make the knots on the loops so that the canopy rests approx. 1 cm on the floor or the canopy underlay (carpeting). See fig. 5.
3. Always plug three of the supplied wooden poles together using the aluminium sleeves. See fig. 6 + 7.
4. Then slide the pinned rods into the two upper side lengths of sewn-on fabric tunnel. See fig. 8.



Bed canopies

Mounting canopies

Product / Scope of delivery

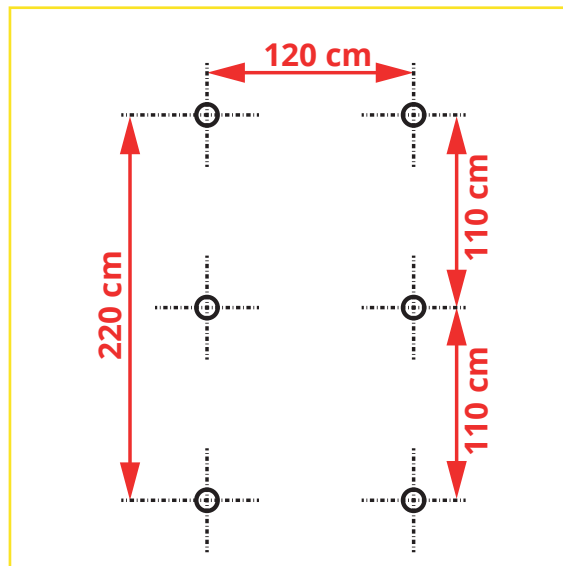
Topas- BE, Swiss Shield Naturell-BE

1 x single bed canopy,
6 x round wooden rods Ø 25 mm x 710 mm,
4 x connecting sleeves Ø 27 mm x 60 mm,
6 x mounting hooks ceiling Ø 5 mm x 65 mm,
6 x universal dowels Ø 8 mm

Canopies made of screen textiles, which cannot be included in the equipotential bonding and thus cannot be earthed, also shield low-frequency alternating electric fields. This results in a charge distribution through the fields on the canopy surface (similar to a Faraday cage).

Attention:

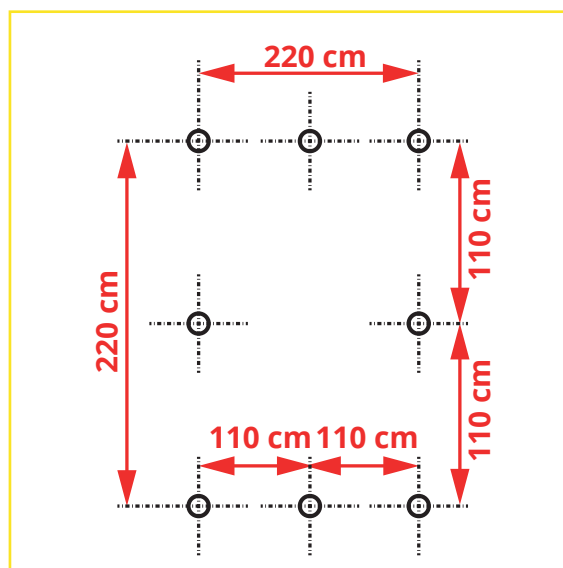
Do not operate any electrical devices inside the canopy, not even shielded ones! This will lead to field carry-over into the interior of the canopy, which means that the shielding of alternating electric fields is no longer given.



Product / Scope of delivery

Topas- BD, Swiss Shield Natuell-BD

1 x double bed canopy
6 x wooden rods pine Ø 25 mm x 700 mm
4 x connecting sleeves Ø 27 mm x 60 mm
8 x mounting hooks ceiling Ø 5 mm x 65 mm
8 x universal dowel Ø 8mm

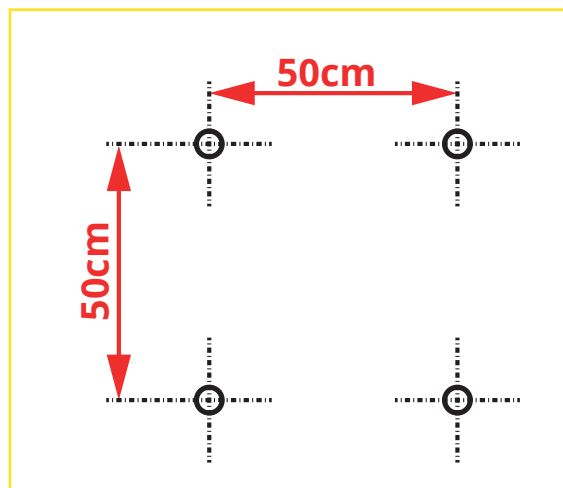


Product / Scope of delivery

Topas- BU, Swiss Shield Naturell-BU

1 x universal bed canopy
4 x mounting hooks ceiling Ø 5 mm x 65 mm
4 x universal dowel Ø 8 mm

The four suspension straps of the universal canopy can also be combined into one and mounted in a central position with a hook. This is particularly useful when using the canopy as a travel canopy. With the help of a floor stand, this canopy can do without a ceiling attachment. You will find suitable holders in conventional shops, e.g. in tent supplies.



Home textiles

Washing instructions incl. symbols (DIN EN ISO 3758:2012)

Content - Washing options

| | | | |
|-----------------|---|--------------------------------------------------|----|
| Detergent | 1 | Washing test - Biologa Danell shielding textiles | 4 |
| Machine washing | 2 | Further information | 12 |
| Hand wash | 3 | Frequently asked questions | 12 |

Applies to the following products

| | |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HOME TEXTILES | Topas CS, Topas SN, Swiss Shield Naturell, Swiss Shield Evolution, Swiss Shield Daylite, Swiss Shield Wear, Swiss Shield Ultima, Sunshine 64, Dali, Picasso, New Antiwave |
| CANOPIES | Topas-BE, Topas-BD, Topas-BU, TOPAS-SN Swiss Shield Naturell-BE, Swiss Shield Naturell-BD, Swiss Shield Naturell-BU Swiss Shield Evolution-BE, Swiss Shield Evolution-BD, Swiss Shield Evolution-BU Swiss Shield Daylite-BE, Swiss Shield Daylite-BD, Swiss Shield Daylite-BU |
| CLOTHING | Antiwave Women-Shirts, Shorts, Leggings, Antiwave Men-Shirts, Shorts, scarfs, Beanies |

Best care

Detergent

Tested and recommended detergents

Ecover / Wool and delicates detergent

Ingredients:

- 5-15 %: Anionic surfactants
- < 5 % Non-ionic surfactants
- Soap
- Fragrances - Limonene
- Preservatives
- 2-Brom-2-Nitropropan-1,3-Diol
- Water
- Table salt
- Citric acid

Sodasan / Wool & Fines

Ingredients:

- < 30 % water
- 5-15 % sugar surfactant (non-ionic surfactant)
- Coconut fatty alcohol sulphate (anionic surfactant)
- < 5 % evaporated salt
- Alcohol (ethanol)
- Vegetable lecithin
- Citrate
- Natural perfume oil
- Limonene
- Geraniol
- Preservative
- 2-Brom-2-Nitropropan-1,3-Diol

Detergent and laundry quantity

Detergent quantity:

- Always use as less detergent as possible. As a rule, umbrella textiles are only slightly dusty.
- **Ecover: approx. 20 ml**
- **Sodasan: approx. 20 ml**
(Further detergent recommendations:
- Sonett sensitive detergent
- Sonett olive detergent for wool and silk
- Sonett Olive Detergent for Wool and Silk sensitive

Quantity shielding textiles

- Fill the laundry drum only with shieling materials.
- You will find the max. laundry load in the delicates programme in the instructions for your washing machine. (usually 1.2 - 1.5 kg)

Wash test

Biologa shielding textiles can usually be washed 40 times and more. The screening attenuation, as with all screening textiles, decreases during this process, but the remaining function still fulfils a strong high-frequency reduction (min. 90 %).

You can see the complete washing test in the appendix (page 10).

Washing machine

Machine washing

Individual steps

M1: 30 °C delicates/wool wash / DO NOT SPIN!

This wash cycle has a particularly gentle mechanical treatment. Reduce the amount of laundry considerably (fill the drum only up to one third). Set the appropriate washing programme.

(Antiwave products 40 °C delicates)

M2: Do not bleach

Bleaching is not possible. Use only bleach-free detergents. If in doubt, try on a concealed area or sample.

M3: Do not tumble dry

The textiles do not tolerate tumble drying.

M4: Do not iron hot

Maximum temperature of the iron soleplate of 110 °C. Also corresponds to the iron temperature level „polyacrylic/polyamide (nylon) /acetate“. Do not iron with steam. Iron with a dry intermediate cloth if necessary. Do not warp.

M5: Professional cleaning

Dry cleaning is not possible. Do not treat with solvents. Do not use stain removers containing solvents.

No wet cleaning possible.

M6: Natural drying (optional)

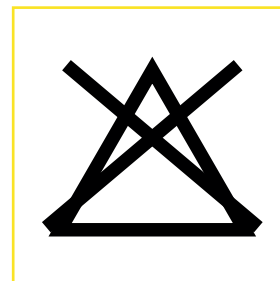
Drying on the clothesline in the shade

M7: Natural drying (optional)

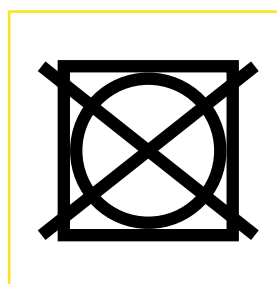
Drying on the clothesline from a dripping wet state in the shade



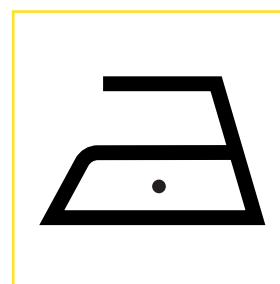
M1: WASH / SPIN



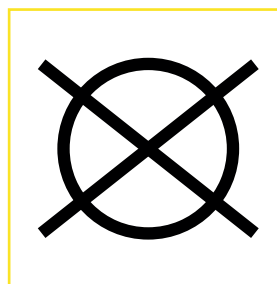
M2: BLEACHING



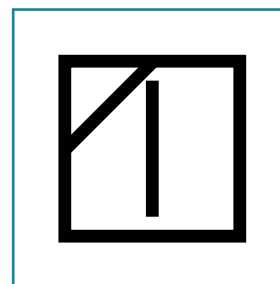
M3: TUMBLER - DRYING



M4: IRONING



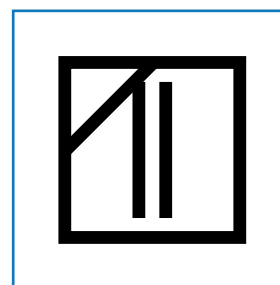
M5: Professional cleaning



M7: NATURAL DRYING 1

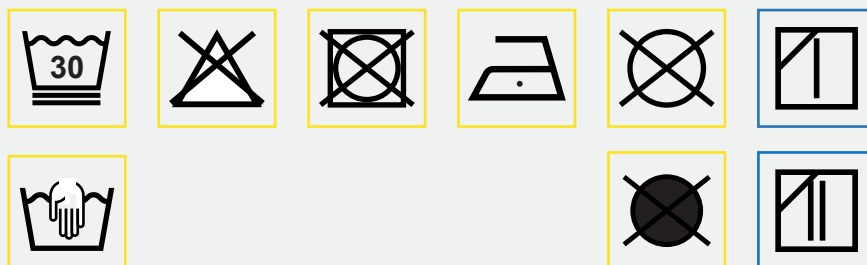
Pre-drying

See Fig. 1 (next page)



M8: NATURAL DRYING 2

General overview of applicable washing symbols



CARE CODE: **AXXAXBX**

Washbasins, tubs

Hand wash

Individual steps

H1: Hand wash,

Water temperature lukewarm to max. 30°C.

1. Fill your washbasin or, depending on the size, your bathtub with lukewarm water.

2. Add a teaspoon of detergent (e.g. ecover / Sodasan). Wool detergent, mild detergent without chlorine, without bleach, without optical brighteners. Do not use fabric softener.

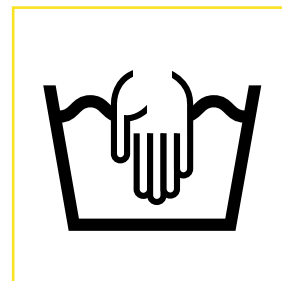
3. Place the textile in the water. Soaking time is usually not necessary as the textile is usually only slightly dusty and not excessively soiled. If so, then less than one minute.

4. Place the textile floating in the water, avoid kneading, wringing, rubbing, strong rubbing and twisting.

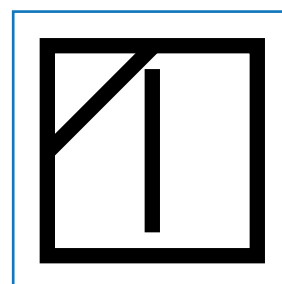
5. Rinse the textile in clean water. Do not spray or rinse under running water. Repeat the process approx. 2 x

6. For pre-drying and subsequent damp hanging, it is recommended to lay the textile on a towel and gently roll it up including the textile. You can also treat the textile as described under H2.

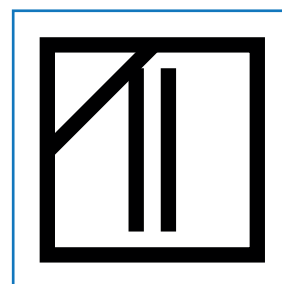
7. Dripping wet hanging without the towel technique is also possible as indicated in H3.



H1: Hand wash



H2: Natural drying
Clothesline - Shade



H3: Natural drying
Clothesline dripping wet - shade

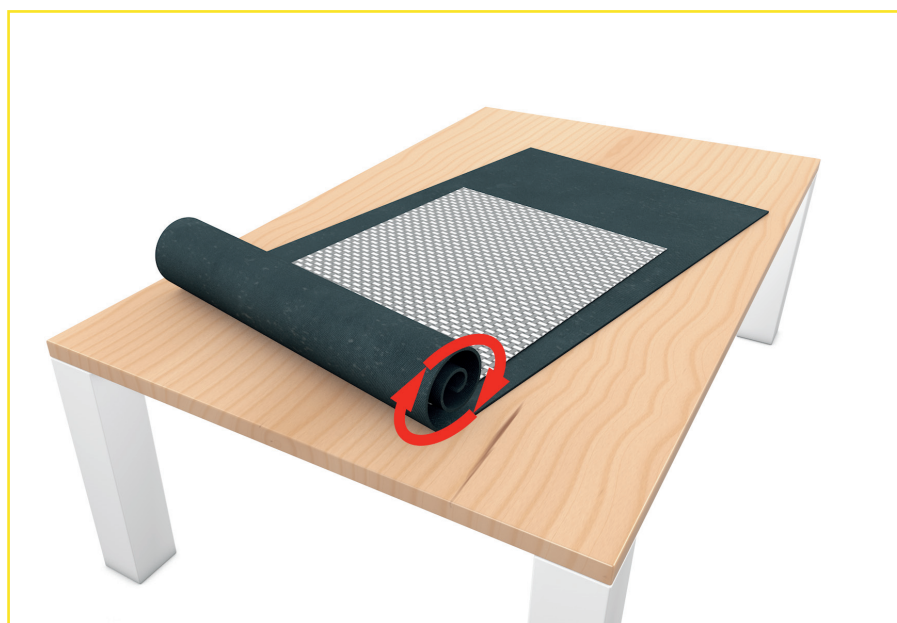


Fig. 1: Pre-dry in towel - hand wash and machine wash

The above information corresponds to the current state of development. In any case, they are to be regarded as non-binding, as we have no influence on the washing and the conditions regarding water etc. vary locally. Claims arising from this information are therefore excluded. The same applies to the commercial and technical advice and information provided free of charge and without obligation. We therefore recommend that you carry out your own tests to determine whether the product is suitable for the intended use. With the publication of these versions, all previous technical information (leaflets, installation recommendations and other versions intended for similar purposes) become invalid.

***Biologa Danell GmbH • Hauptstraße 27 • 72336 Balingen • +49 7433 955 7172 • info@biologadanell.com • www.biologadanell.com

Wash test

Washing test - Biologa Danell shielding textiles

Test machine specifications

Type: Bauknecht WA Sensitive 44 Di

Settings used:

- Programme: Delicate laundry 30 °C (curtains and delicate clothes)
- Max. load: 1.5 kg
- Water consumption: 60 litres
- Consumption: 0.4 kWh
- Duration: 0:46 hrs.
- Spin: OFF
- No prewash
- No fabric softener
- No cold wash

Laundry quantity

- 7 samples each approx. 1 sqm/per piece (ins. 1.5 kg)
- Topas CS
- Sunshine 64 (ecru/white)
- Swiss Shield Naturell
- Swiss Shield Evolution
- Swiss Shield Daylite
- Picasso
- Dali

Additional information

- Water quality varies from place to place. You can ask your waterworks for the current data. For copyright reasons, the water quality data from the company headquarters cannot be published here.
- The settings of the washing modes of your washing machine may differ from those used here. You will find them in the instruction manual of your washing machine.
- The environment in which the textile is used has an influence on its durability (salt water, chemical substances, etc.).

Detergents used

Ecover / Wool and delicates detergent

Ingredients:

- 5-15 %: Anionic surfactants
- <5 % Non-ionic surfactants
- Soap
- Fragrances - Limonene
- Preservatives
- 2-Brom-2-Nitropropan-1,3-Diol
- Water
- Table salt
- Citric acid

Sodasan / Wool & Fines

Ingredients:

- <30 % water
- 5-15 % sugar surfactant (non-ionic surfactant)
- Coconut fatty alcohol sulphate (anionic surfactant)
- <5 % evaporated salt
- Alcohol (ethanol)
- Vegetable lecithin
- Citrate
- Natural perfume oil
- Limonene
- Geraniol
- Preservative
- 2-Brom-2-Nitropropan-1,3-Diol

Detergent quantity

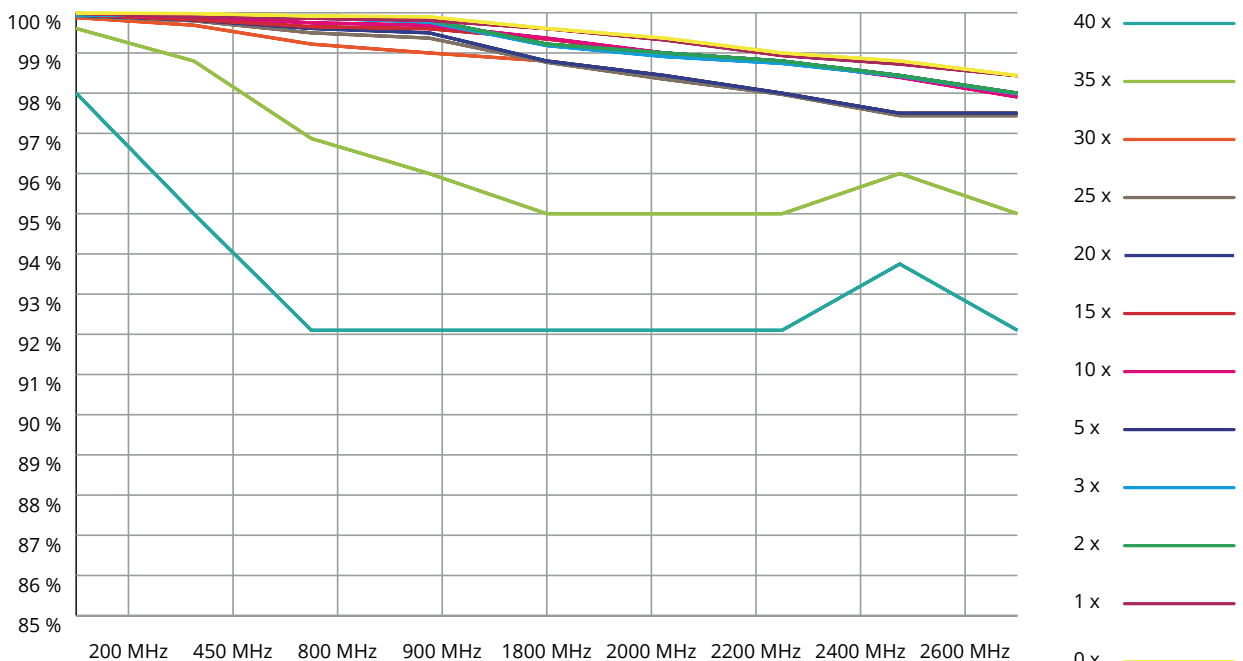
- Ecover: 20 ml
- Sodasan: 20 ml

Comparative measurements

- The comparative measurements were carried out with an ADVANTEST R3131 incl. generator (9 kHz-3 GHz).
- The comparative measurements were always carried out with the same environmental variables as far as possible.
- The 2021 batch of all umbrella textiles was used as a reference.

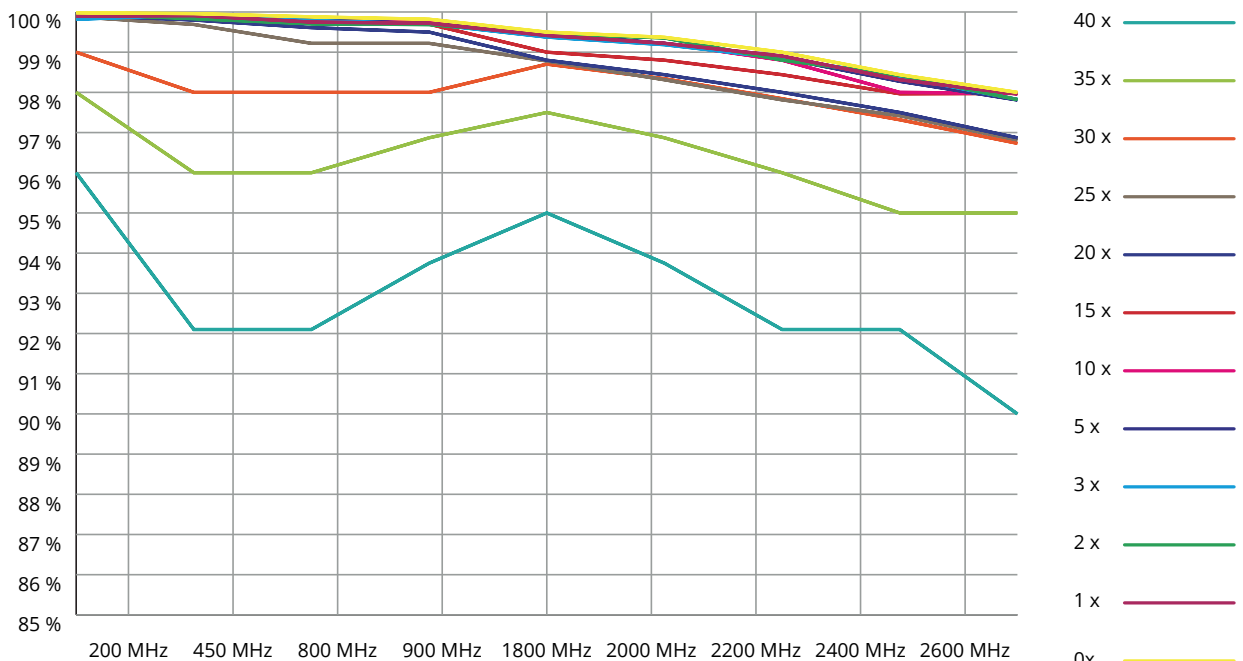
Wash test

Wash test - Topas CS - Ecover



Wash test

Wash test - Topas CS - Sodasan

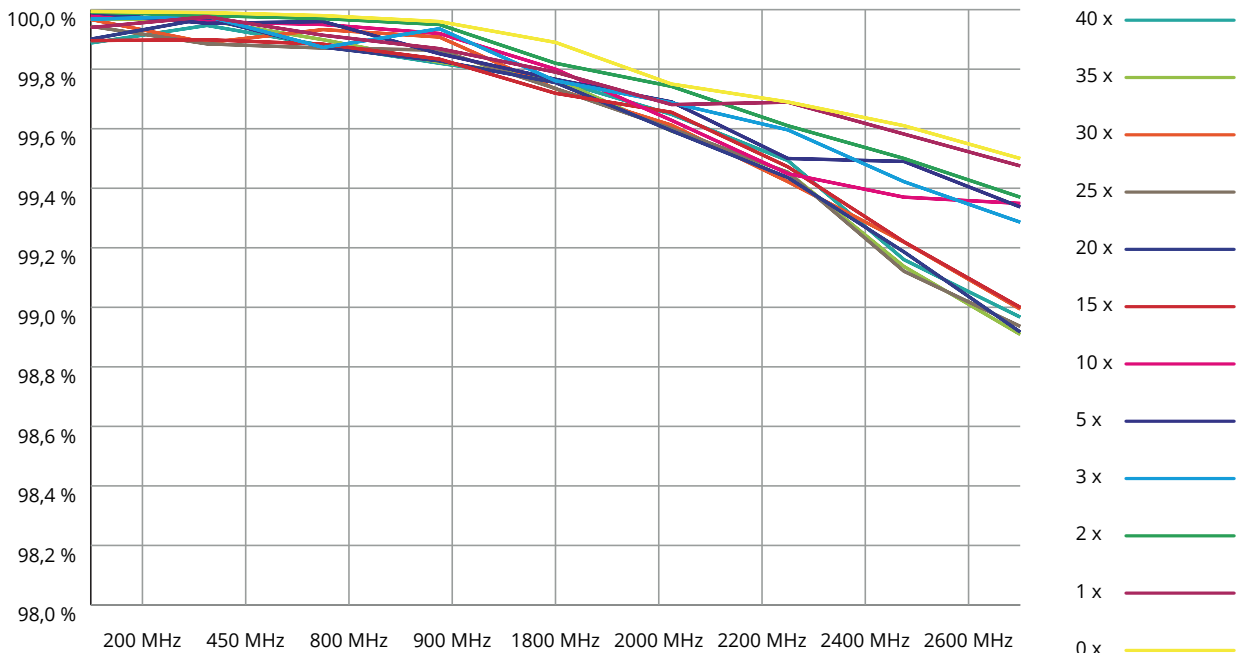


The above information corresponds to the current state of development. In any case, they are to be regarded as non-binding, as we have no influence on the washing and the conditions regarding water etc. vary locally. Claims arising from this information are therefore excluded. The same applies to the commercial and technical advice and information provided free of charge and without obligation. We therefore recommend that you carry out your own tests to determine whether the product is suitable for the intended use. With the publication of these versions, all previous technical information (leaflets, installation recommendations and other versions intended for similar purposes) become invalid.

***Biologa Danell GmbH • Hauptstraße 27 • 72336 Balingen • +49 7433 955 7172 • info@biologadanell.com • www.biologadanell.com

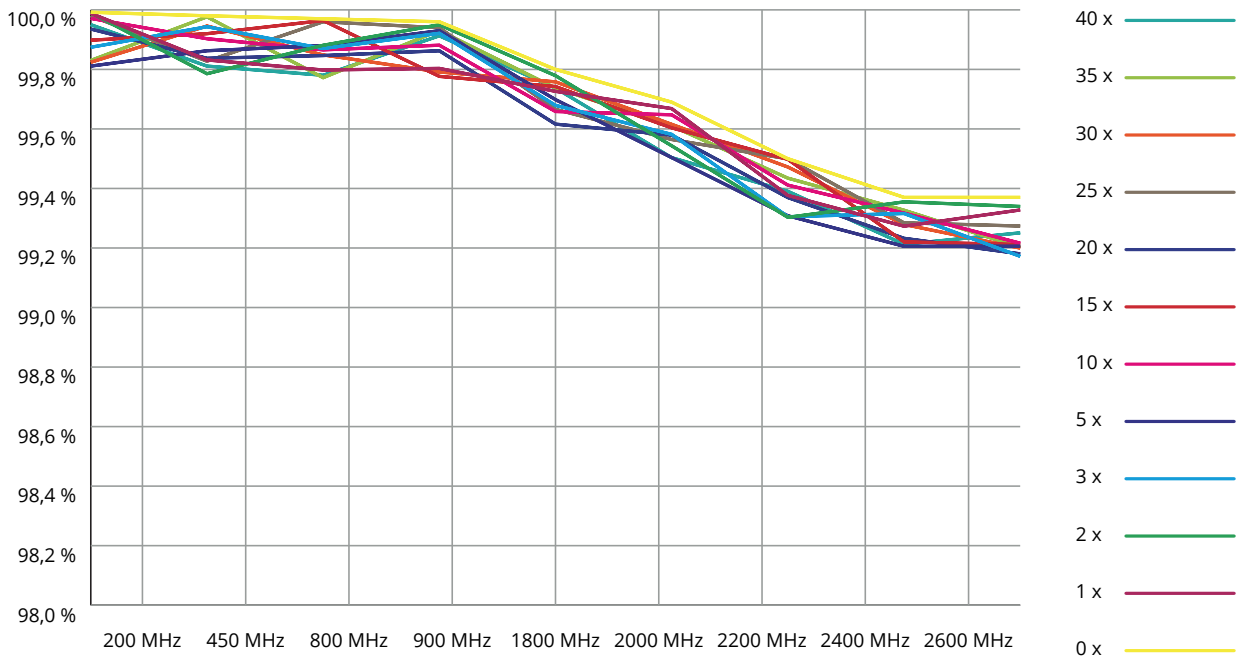
Wash test

Wash test - Sunshine 64 - Ecover



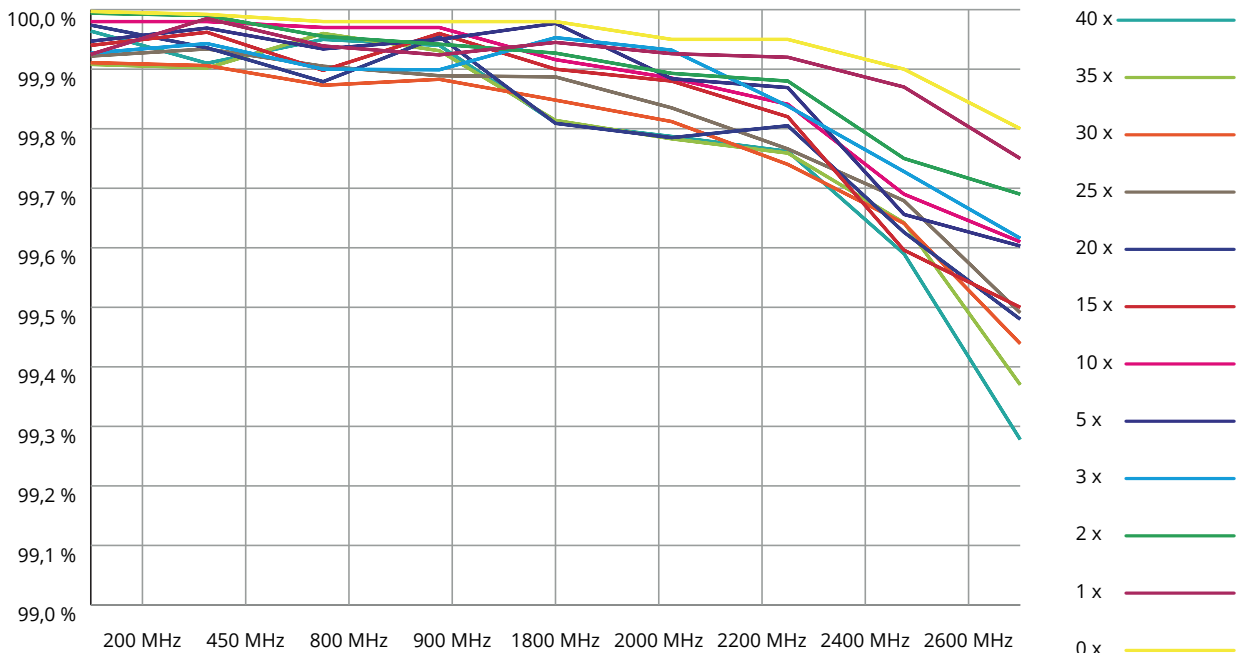
Wash test

Wash test - Sunshine 64 - Sodasan



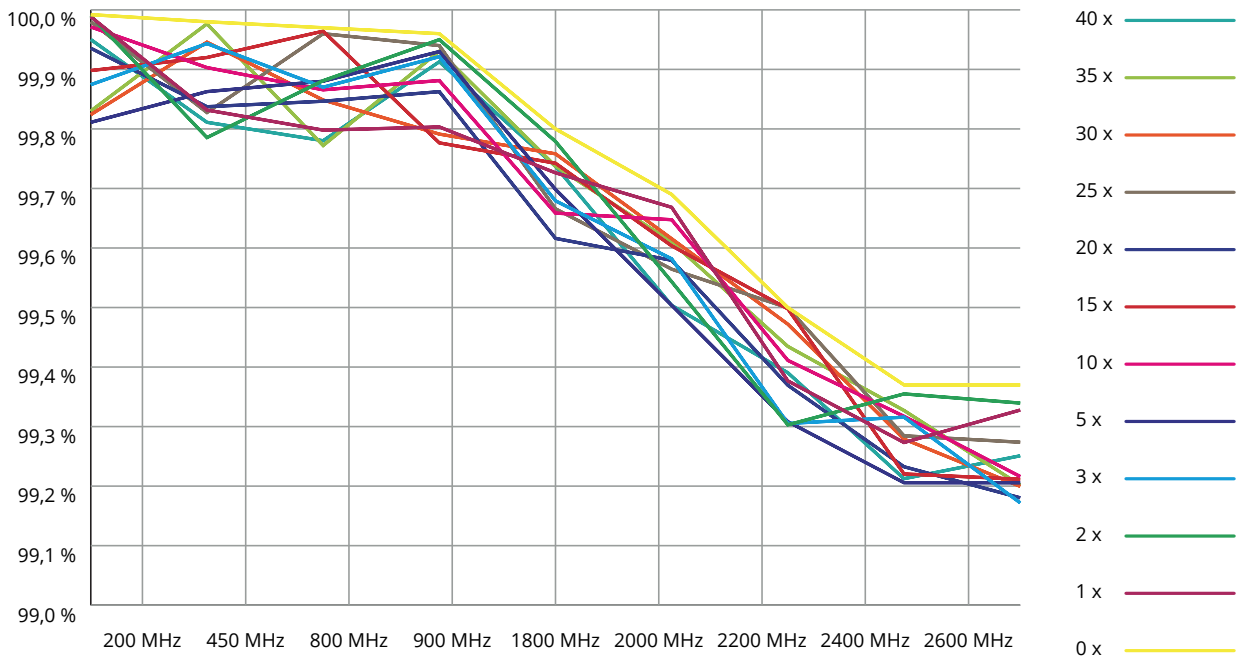
Wash test

Wash test - Swiss Shield Naturell - Ecover



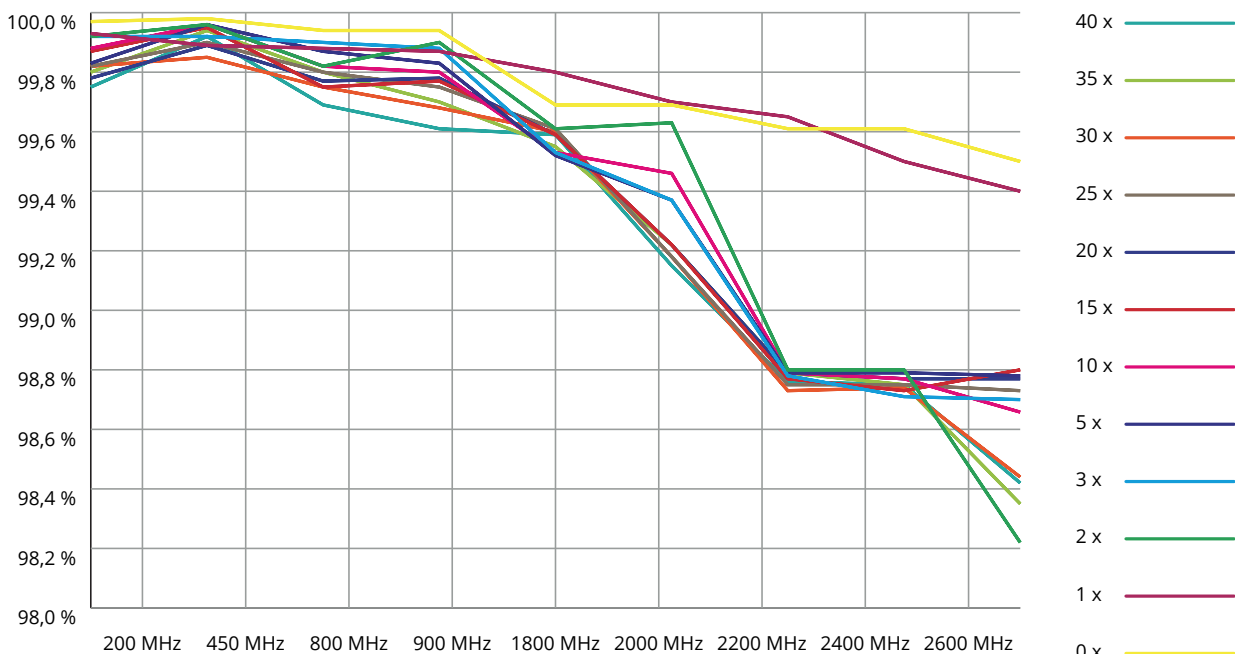
Wash test

Wash test - Swiss Shield Naturell - Sodasan



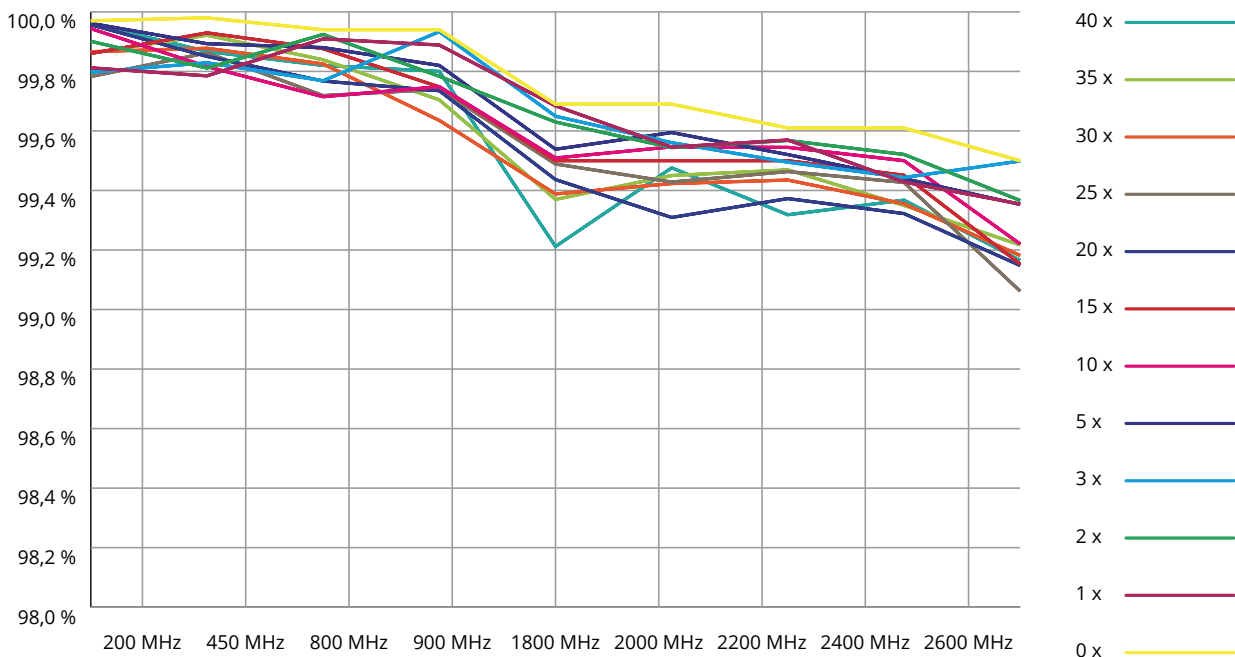
Wash test

Wash test - Swiss Shield Evolution - Ecover



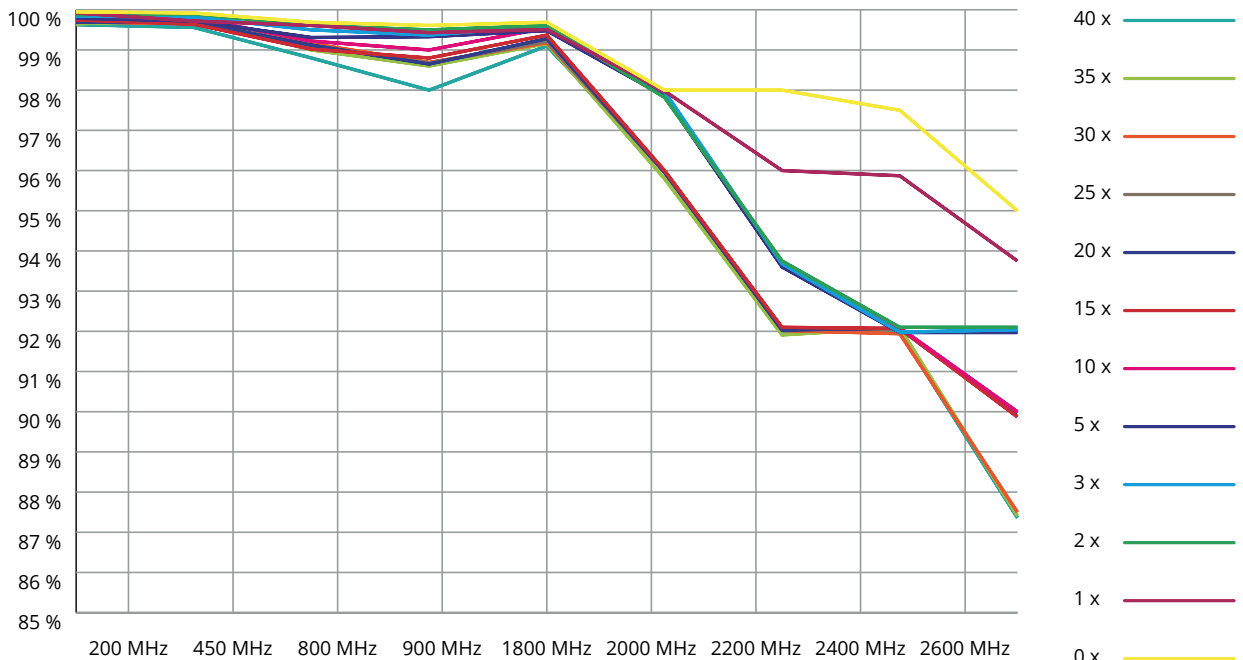
Wash test

Wash test - Swiss Shield Evolution - Sodasan



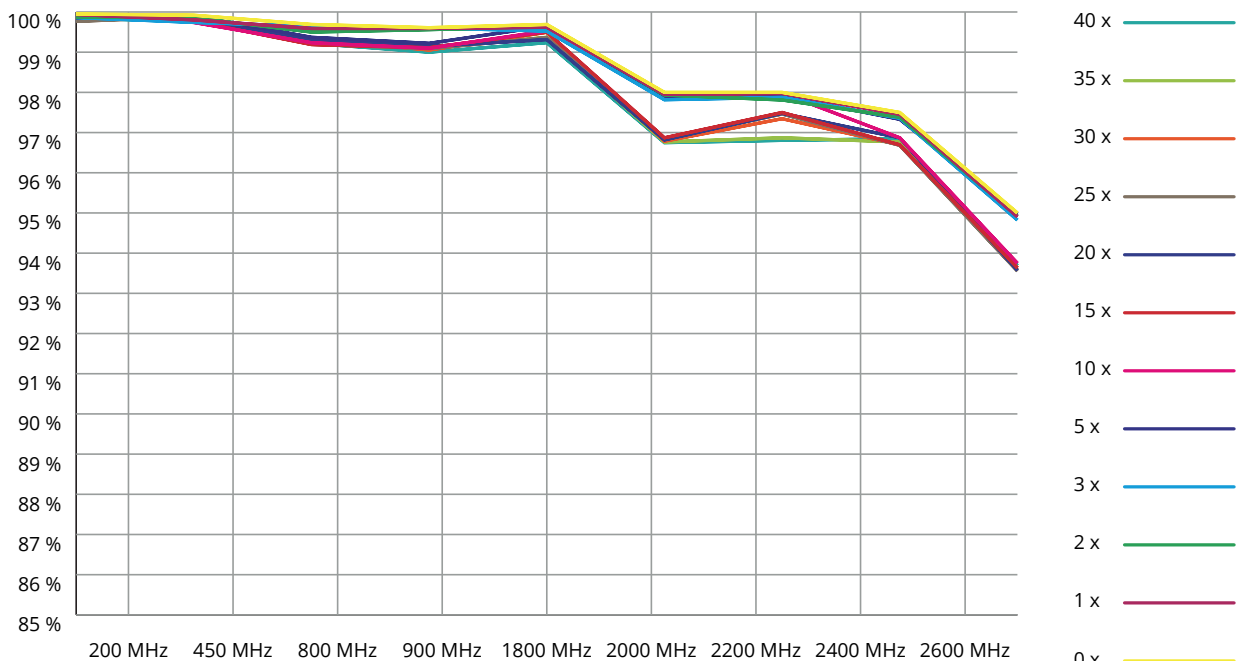
Wash test

Wash test - Swiss Shield Daylite - Ecover



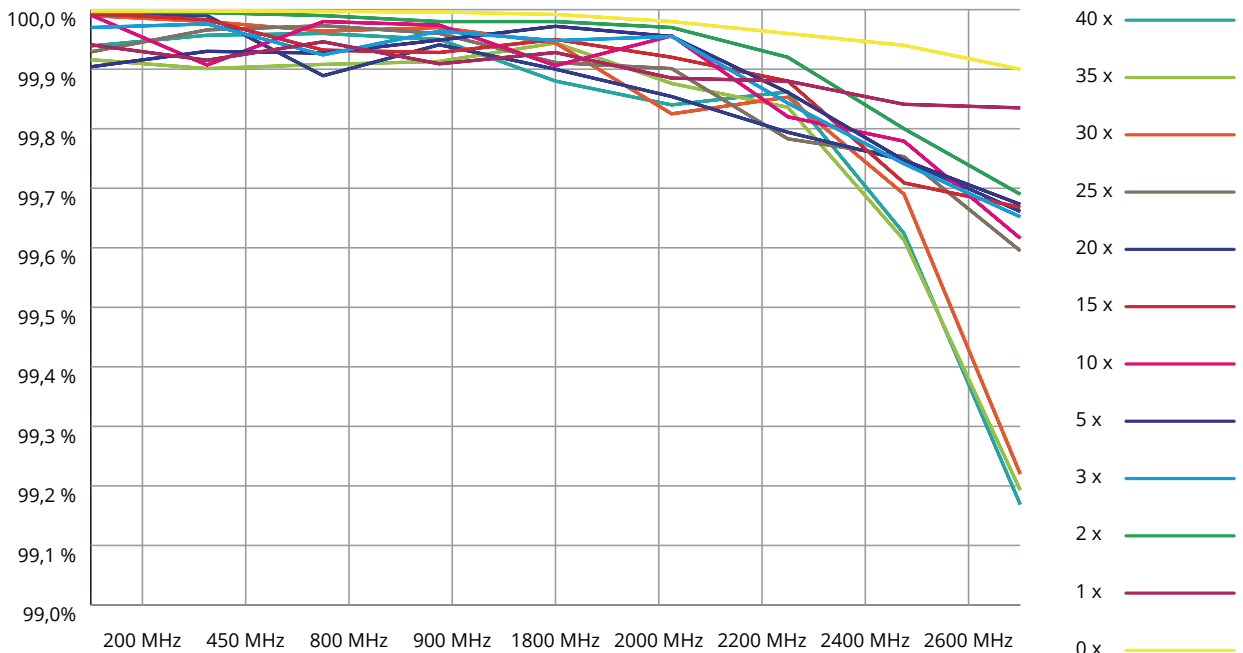
Wash test

Wash test - Swiss Shield Daylite - Sodasan



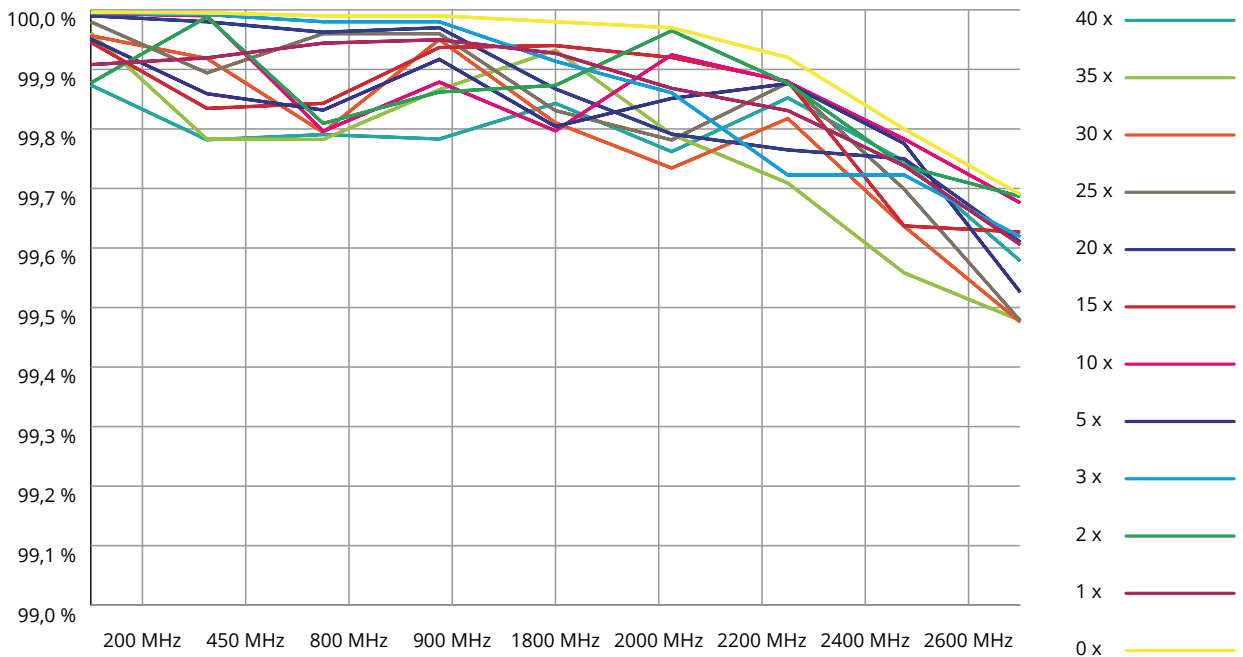
Wash test

Wash test - Picasso - Ecover



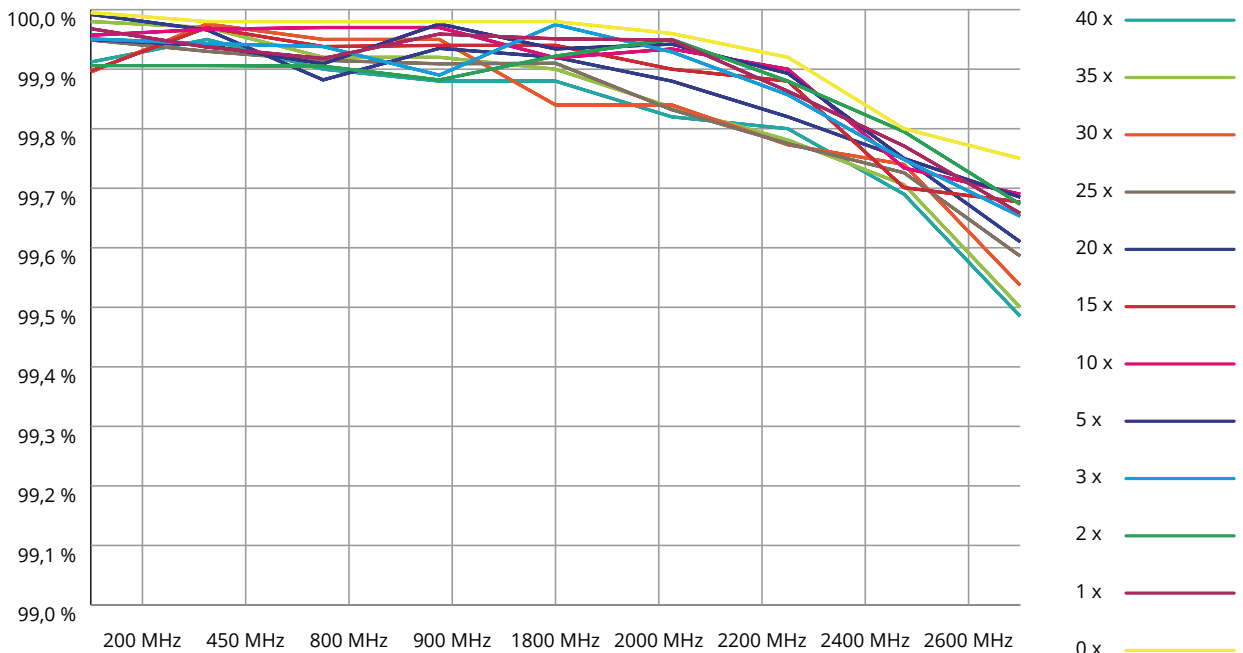
Wash test

Wash test - Picasso - Sodasan



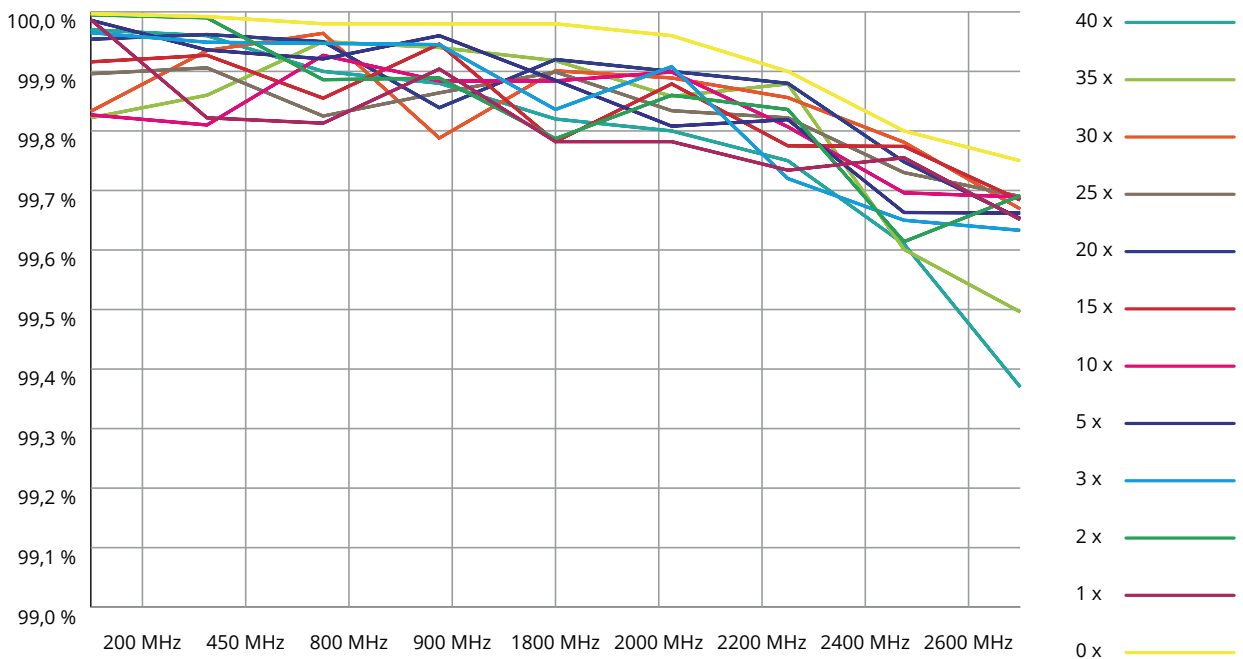
Wash test

Wash test - Dali - Ecover



Wash test

Wash test - Dali - Sodasan



The above information corresponds to the current state of development. In any case, they are to be regarded as non-binding, as we have no influence on the washing and the conditions regarding water etc. vary locally. Claims arising from this information are therefore excluded. The same applies to the commercial and technical advice and information provided free of charge and without obligation. We therefore recommend that you carry out your own tests to determine whether the product is suitable for the intended use. With the publication of these versions, all previous technical information (leaflets, installation recommendations and other versions intended for similar purposes) become invalid.

***Biologa Danell GmbH • Hauptstraße 27 • 72336 Balingen • +49 7433 955 7172 • info@biologadanell.com • www.biologadanell.com

Washing instructions home textiles

Further information

Further information

Colour fastness (Dali+Picasso+Swiss Shield Naturell)

Shades, colour differences and batik-like discolourations are not manufacturing defects and do not represent quality defects. Silver-plated products or products made of natural cotton are subject to colour change. This usually has no influence on the screening attenuation of the material.

Washing temperatures

Higher washing temperatures are not necessary due to the antibacterial properties of silver.

Storage

If you do not use the purchased product immediately after purchase, we recommend that you leave it in its original packaging until use and store it in a dry place at normal room temperature (20 °C +/- 2 °C and 50 % +/- 10 % humidity). The storage location should not be exposed to direct sunlight and should be free from acidic and alkaline media.

Washing instructions home textiles

Frequently asked questions

FAQ

| | |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Durability of shielding textiles? | Shielding textiles are subject to chemical and mechanical wear just like conventional textiles. Do not wash shielding textiles too often and only ever wash them according to these instructions in order to achieve maximum durability. Measure from time to time. If your shielding textile has no or no longer sufficient attenuation, you should replace it. Biologa Danell has no influence on your environmental variables. |
| Can I also use shielding textiles outdoors? | Never use shielding textiles outdoors! Exclusively indoors in front of windows, doors, walls and on ceilings. |
| Which silver is used in shielding textiles? | Biologa Danell uses microsilver in shielding textiles. We does not sell products with incorporated nanoparticles. |
| Can the incorporated silver drop off the textile? | The silver is so firmly bonded to the yarn that it will not come off under normal mechanical stress. This is additionally reinforced by insulation. |