

Application and Maintenance of Squid® Textile

Issued: 4/2021

Squid is a self-adhesive transparent textile for covering indoor glass windows, doors and glass partitions. Squid comes in two versions, a semi-transparent film and an opaque version, which lets you close off areas partly or completely, depending on the amount of privacy you want. It is available in six different colors. In addition to being highly decorative, it also offers various degrees of privacy, thermal and visual comfort depending on the color of choice. Squid is printable with (Eco-) solvent and UV curable inks, with a dedicated version (Squid Chalk - Latex) also printable with Latex inks.

This Bulletin is addressing the installation of the product as well as the maintenance of application afterwards. Furthermore it provides additional technical specifications not covered by the technical data sheet.

Note: Keep the product tightly wrapped around its carton core until the moment of installation. It must be firmly attached with 3 adhesive tapes evenly spread over the width of the roll, in the center, left end and right end.

Surface preparation

The surface has to be cleaned by:

1. Clean & degrease the window thoroughly with a mild detergent solution, after which the surface should be rinsed and dried with a lint-free cloth.
2. Larger flat shaped surfaces can be cleaned with Avery Dennison Cleaners, such as the Avery Dennison Surface Cleaner or Avery Dennison Flat Surface Cleaner.
3. Dry the window thoroughly with a lint-free cloth.

Print preparation

All Squid colors can be printed roll to roll with UV curing and Eco-solvent inks. Squid Chalk - Latex can also be printed with Latex inks. All Squid Opaque colors can be printed with (Eco-) solvent, UV curable as well as Latex inks.

Please note that the textile color of the darker fabrics will influence the printed result.

If the product is being printed, please use generic textile ICC profiles in case of (Eco-) solvent ink use or for Latex ink use the dedicated HP Latex profile from the Media Solution Locator of HP.

The product needs to be sufficiently dried before it can be applied. When drying, material should **not** be tightly wound on a core, as the solvents are then unable to evaporate. The materials should be left drying loosely wound on a core, or stacked in racks as sheets. To avoid any bubbles or creases in the product it is essential to minimize the time of leaving it loosely on the core to the maximum of one hour for this product.

Tools for the installation

Prior to the installation of the product it is recommended to prepare the required tools:

- Measuring tape
- Teflon squeegee, e.g. the none-felt side of Avery Dennison Squeegee Pro Rigid
- Cutter with stainless steel blades (plus spare ones) and
- Scissors
- Application Tape (e.g. R-Tape 4885)

Installation

Prior to installation (or printing), Squid rolls must rest for at least 1 hour, outside of their original packaging, at a stable temperature comprised between 15°C and 22°C. Squid must be kept tightly rolled onto its carton core. In case Squid was transported or stored at a temperature below 15°C, the acclimatization duration must be at least 4 hours.

Squid should always be installed on the inside of the window and according to the guidelines given in the instructional videos that are publicly available on the Squid web site and YouTube channel. The temperature of the room must be between 15°C and 22°C and must remain stable. The temperature of the window surface (inside) or glass surface must be at least 10°C, in order to ensure a good adhesion of Squid®. Wet application is not recommended. Measure the width and height of the window you want to install the product on. Cut the product somewhat larger than the window, adding about 5 cm extra on each side for trimming. For experienced installers 2 cm on each side may also suffice.

Note: After cutting the piece of the product that will be used for the application, ensure to wrap the remaining product tightly around its carton core and fix it firmly with 3 adhesive tapes evenly spread over the width of the roll. If the product is not stored in this way, this may create permanent bubbles or creases in the fabric.

Pull about 15 cm of the liner off the film and fold it. Align the product with the top of the window and press the textile gently onto the glass. Take out the remaining liner little by little, about 15 cm at a time while pressing gently the fabric onto the window from top to bottom and from the middle to the side.

In case of bubbles or creases, detach gently the fabric from the window, without inducing tension, up to the level beyond the bubble or crease. Then let it fall again smoothly onto the window, while accompanying it with your hand or with the squeegee. Never try to push out bubbles or creases by pressing with the squeegee because this would cause permanent deformations in the fabric.

When the textile is perfectly flat on the window, use the squeegee to adhere it well to the glass. Press from the center outwards. Press over the entire surface well, including the edges and the corners. Place the squeegee next to the window silicon joint, with the cutter on the inside. Carefully cut to remove the excess, with a regular movement using strong pressure and a sharp angle. Use a new blade every 2 meters and for every corner, in order to avoid tearing the yarn. For best results, it is recommended to leave a 1-3 mm gap between the silicon joint and the fabric.

Note: Apply a strong pressure (10 kg) with the squeegee over the whole surface, horizontally and vertically, in order to activate the glue. This is very important to avoid the formation of bubbles in fabric and to ensure the adhesive is properly activated.

Squid can also be installed seamlessly on windows that are wider than the product. There is a special 3-layer method for this, based on a classic 2-layer overlap method. Watch the instructional videos to see how it works. Make sure the textile sheets all point in the same direction. Don't forget that the Squid textile has a grain orientation. **Therefore avoid placing two pieces at right angles or in the opposite direction to each other. Squid is not omnidirectional!**

If you have left overs of the fabric, keep it in its original packaging, tightly wrapped around its carton core, and firmly fixed with 3 adhesive tapes evenly spread over the width of the roll, that is in the center, left end and right end.

For more information and videos on installation, visit www.squid.be.



TECHNICAL BULLETIN 5.15

Maintenance of the application

Squid Textile lasts for years with proper maintenance. Although it looks like a filmic product, it is actually a woven fabric. Maintenance of Squid is therefore very different from regular window film. Please inform your cleaning team of the follow aspects.

1. Immediately after installation

Squid uses a semi-permanent adhesive, which adheres more strongly with the passage of time. Therefore, avoid pulling the fabric loose from the window, especially just after installation.

2. Cleaning the fabric

Thanks to Squid, your windows will no longer get dirty or need washing. There is no need to remove Squid itself. You can dust Squid using a vacuum cleaner with a soft brush. To remove simple stains, use a damp microfiber cloth and some warm water. For more 'stubborn' stains, such as chocolate, pencil, honey, mayonnaise etc., you can try a spot cleaner for textiles. Use a textile cleaner without solvents, such as TMC 520 or James Wonder, and follow the instructions carefully.

Additional tips for removing stains:

- Remove access liquids using an absorbent cloth and/or carefully scrape away hardened particles.
- Remove grease-free stains using a lukewarm microfiber cloth.
- Remove grease stains using a solvent-free stain remover. Solvents should not be used, as they reduce the strength of the glue. It is always recommended to always test the cleaner on a piece of Squid to avoid unwanted effects. Avoid using detergents or cleaners used for hard surfaces. Avoid excessive pressure, tensile force or abrasion force on Squid during maintenance. These can permanently damage the textile.

These recommendations are for guidance only and cannot guarantee the complete removal of stains.

3. Cleaning the window

You no longer need to wash fully covered windows. For partially covered windows, it is best to avoid dirty water running into Squid. Therefore, avoid cleaning the uncovered part of the window with a sponge. A better alternative is to spray glass cleaning product onto a microfiber cloth and clean the uncovered part of the window with that. If Squid becomes moist, allow the liquid to evaporate slowly without touching the fabric.

4. Removing Squid

At the end of Squid's lifespan, the fabric can be easily removed in one piece. Loosen one corner and pull the fabric off the window. Depending on how long your Squid has been in place, there may be some adhesive residue. Because the adhesive is water-based, you can easily remove any residue with soap and water. For larger adhesive residues, simply use a glass scraper to speed up the cleaning process.

TECHNICAL BULLETIN 5.15

Additional product specifications

Material

Squid - Fabric: 105 g/m² woven Polyester, Liner 35 g/m² Polypropylene
Squid Opaque - Fabric: 210 g/m² woven Polyester, Liner: 35 g/m² Polypropylene

Characteristics

- PVC-free
- Halogen free (no treatment containing halogens)
- Digitally printable with (Eco-) solvent, UV curable and Latex inks inks*
- Digitally cuttable on flatbed cutters (Zund/ Esko/ Summa)**, not recommended for sign cutting
- Damp-proof, ensuring greatest resistance in a warm and humid climate
- Suitable for computer workstation environment
- HR++ and HR+++ glass compatible (not for printed version or for Coal)***, not applicable to Squid Opaque Series
- Cooling effect
- Interior applications only
- Service life: minimum 5 years

Fire classification

Squid - B1: Standard DIN 4102-1; M1: Standard NF P92 501-7; B-s1, d0: Standard EN13501-1
Squid Opaque – C-s2, d0: Standard EN13501-1

Antibacterial/ Antifungal

This fabric has been treated with active agents that prevent the growth of various micro-organisms and is therefore particularly suitable for application in hospitals, nursing homes, surgeries, laboratories, etc. It can also be used in rooms with high humidity. The active agent Sanitized® gets rid of a broad spectrum of the most popular indoor molds and fungi. Sanitized® cannot guarantee that all indoor living mold and fungi species are removed. In a very humid environment, the antibacterial properties will deteriorate more quickly.

Oeko-Tex standard 100

The Oeko-Tex® Standard 100 guarantees that successfully tested and certified textiles are free from harmful substances.

* All Squid colors can be printed roll to roll with UV curing and Eco-solvent inks. Squid Chalk - Latex can also be printed with Latex inks. All Squid Opaque colors can be printed with (Eco-) solvent, UV curable as well as Latex inks. Please note that the textile color of the darker fabrics will influence the printed result. If the product is being printed, please use generic textile ICC profiles in case of (Eco-) solvent ink use or for Latex ink use the dedicated HP Latex profile from the Media Solution Locator of HP.

**Digitally cuttable on flatbed cutter, best results reached with the following settings:

ZUND tests were successful with cutter G3_L2500 / module UM-ZS / UCT-tool / speed: 70 / Standard glide shoe / acceleration level: 2 / Z-lower: 200 / cutting underlay: grey conveyor belt / software: ZCC. Best cutting results with an oscillating blade (Z16). For more information please contact your local ZUND center.

ESKO tests were successful on Kongsberg 50-100m/min. settings: speed: 100% / 0.56G to 1.7G. Best cutting results with blade ref. BLD sr6150 (code G42445494). For more information please contact your local ESKO center.

Summa tests were successful on a F series F1612 (table cutter) with kiss cutting knife. Parameters: slot position: auto / speed: 800mm/s / lift up angle: 35° / overcut: 0.1mm / pause job after current tool: Off / segment helper: Off

Remark: The material will allow kiss cutting only for bigger objects +/-3mm between corners. For more information please contact your local Summa center.

***HR++ and HR+++ glass compatible: Compared with vinyl window films, unprinted Squid itself can never lead to thermal stress that causes the glass to crack. The open structure allows the heat to escape. In combination with a number of other factors (such as glass has prior damage, bad installation, Squid is only partially applied to the glass, two or more colors applied to the same glass surface, Squid is applied to any glass with permanent or temporary ornamentation, spot heating or partial exposure to light) there is an increased chance of cracks.

Important: Printed Squid and the color Coal cannot be applied onto HR++ and HR+++ glass. HR++ typically refers to double-glazing with Low E coating and HR+++ typically to triple glazing. Squid cannot be applied to laminated glass, unless all panes are heat strengthened or tempered.

Note: Avery Dennison can never be held responsible in case of cracks caused by thermal stress.

TECHNICAL BULLETIN 5.15

Specification by color

Squid

	Chalk white	Bone cream	Oak light brown	Ash cool grey	Rock dark grey	Coal black
Light reflectance	38%	34%	23%	20%	17%	2%
Light transmission	60%	57%	49%	47%	42%	23%
Light absorption	2%	9%	28%	33%	41%	75%
Solar reflectance	36%	33%	28%	25%	25%	18%
Solar transmission	60%	59%	56%	54%	52%	41%
Solar absorption	4%	8%	16%	21%	23%	41%
UV transmission factor	46%	49%	42%	42%	38%	25%
Cooling effect*	-4,0°C	-4,5°C	-4,2°C	-3,9°C	-4,0°C	-4,0°C
Visual contact with the outside	2	2	2	2	3	4
Daylight utilization	4	4	3	3	3	2
Openness factor (%)	17,1	13,5	14,9	11,8	13,1	17,7

Squid Opaque

	Chalk white	Bone cream	Oak light brown	Ash cool grey	Rock dark grey	Coal black
Light reflectance	56%	49%	27%	21%	14%	3%
Light transmission	42%	33%	17%	14%	9%	5%
Light absorption	2%	18%	56%	64%	77%	92%
Solar reflectance	53%	50%	40%	37%	33%	26%
Solar transmission	41%	36%	29%	28%	25%	23%
Solar absorption	6%	14%	31%	35%	42%	51%
UV transmission factor	16%	13%	10%	10%	7%	6%
Cooling effect*	-5,2°C	-4,2°C	-3,2 °C	-2,9°C	-3,3°C	-3,5°C
Openness factor (%)	6,6	5,4	3,0	4,1	3,6	3,0

Note:

Light reflectance %

380nm-780nm

The visible amount of the light's radiation that gets reflected back by the sun blind. The higher a fabric's level of reflectance, the smaller the amount of light that gets through.

Light transmission %

380nm-780nm

The visible amount of the light's radiation that gets let through by the sun blind. The higher a fabric's level of transmittance, the greater the amount of light that gets let through.

Light absorption %

380nm-780nm

The visible amount of the light's radiation that gets absorbed by the sun blind and transformed into heat and given off again in the form of long-wave infra-red rays.

Solar reflectance %

280-2500nm

The fraction of the total incident sunlight (visible and infra-red) which is reflected by the sun protection. The higher the solar reflectance, the less the room is heated by incident sunlight.

TECHNICAL BULLETIN 5.15

Solar transmission %

280-2500nm

The fraction of the total incident sunlight (visible and infra-red), which is transmitted by the sun protection. The higher the level of solar transmittance, the greater the amount of solar energy that gets through.

Solar absorption %

280-2500nm

The fraction of the total incident sunlight (visible and infra-red), which is absorbed by the sun protection and converted to heat. The greater the solar absorbency, the more the room is heated by incident sunlight.

UV transmission factor %

280-380nm

The degree of UV transmission as defined by DIN EN 410 indicates how much ultraviolet light is being allowed through. UV light destroys pigmentation, resulting, for instance, in faded furniture and carpets.

Cooling effect

When you are standing behind a Squid covered window on a sunny day, you can feel the cooling effect of Squid. Thanks to the partial reflection of the sun, less radiation is entering through the window. The cooling effect is expressed in degrees Celsius and describes the difference between the temperatures you *feel* behind a Squid covered window in comparison with the temperature you feel behind the same window without Squid. The temperatures mentioned in the table above do not state the total temperature reduction of the full room. Please note that this should not be considered as an energy saving property.

Visual contact with the outside

The extent to which you can see outside. (DIN EN 14501: 2006-02)(0= very small effect / 4=very high effect) This means that with Coal you have the best visual contact with the outside.

Daylight utilization

The degree to which daylight enters the room.

(DIN EN 14501: 2006-02) (0= very small effect / 4=very high effect) This means that Chalk and Bone transfer the most daylight into the room.

Openess Factor

Relative area of the openings in the fabric (hole).

TECHNICAL BULLETIN 5.15

Total energy transmittance and reduction factors by color

Squid

	Chalk white	Bone cream	Oak light brown	Ash cool grey	Rock dark grey	Coal black
Single glass, $U_g=5,8 \text{ W/(m}^2\text{K)}$, $g=0,85$						
g_{tot}	0,58	0,60	0,61	0,62	0,62	0,66
F_c	0,68	0,70	0,71	0,73	0,73	0,78
Air-filled double glass, $U_g=2,9 \text{ W/(m}^2\text{K)}$ $g=0,76$						
g_{tot}	0,55	0,56	0,57	0,58	0,59	0,63
F_c	0,72	0,74	0,75	0,77	0,78	0,83
Argon-filled double layered glass, $U_g=1,2 \text{ W/(m}^2\text{K)}$ $g=0,59$						
g_{tot}	0,46	0,47	0,48	0,49	0,49	0,52
F_c	0,78	0,80	0,81	0,83	0,84	0,88
Argon-filled tripple layered glass, $U_g=0,8 \text{ W/(m}^2\text{K)}$ $g=0,55$						
g_{tot}	0,44	0,45	0,46	0,46	0,47	0,49
F_c	0,80	0,82	0,83	0,84	0,85	0,89

Squid Opaque

	Chalk white	Bone cream	Oak light brown	Ash cool grey	Rock dark grey	Coal black
Single glass, $U_g=5,8 \text{ W/(m}^2\text{K)}$, $g=0,85$						
g_{tot}	0,46	0,47	0,52	0,53	0,56	0,59
F_c	0,54	0,55	0,61	0,63	0,65	0,70
Air-filled double glass, $U_g=2,9 \text{ W/(m}^2\text{K)}$ $g=0,76$						
g_{tot}	0,45	0,46	0,51	0,52	0,54	0,58
F_c	0,59	0,61	0,67	0,69	0,71	0,76
Argon-filled double layered glass, $U_g=1,2 \text{ W/(m}^2\text{K)}$ $g=0,59$						
g_{tot}	0,41	0,41	0,44	0,45	0,47	0,49
F_c	0,69	0,7	0,75	0,77	0,79	0,83
Argon-filled tripple layered glass, $U_g=0,8 \text{ W/(m}^2\text{K)}$ $g=0,55$						
g_{tot}	0,39	0,4	0,42	0,43	0,45	0,46
F_c	0,71	0,72	0,77	0,79	0,81	0,84

Note:

Total energy transmittance g

The g-total is the measured total energy transmittance of the glass including sun protection. The smaller the g-total, the less the room temperature increases due to incident sunlight.

Fc Value explanation

The decisive value defining the energy-efficiency characteristics of a fabric is the Fc value which describes the efficiency of the sun protection in intercepting the incident sunlight in relation to the sun protection used and glazing type. When consistently used, a considerable minimization of energy consumption for heating and cooling is achieved. The lower the energy class, the greater is the efficiency and thus the energy saving.

Class	FC Values of Classes	Improvement in room's thermal comfort
1	0,20 – 0,39	Very High
2	0,40 – 0,59	High
3	0,60 – 0,79	Medium
4	0,80 – 0,89	Low
5	> 0,90	Neutral

TECHNICAL BULLETIN 5.15

Reduction factor

Relationship between total energy transmittance of glazing with sun protection (g-total) and glazing without sun protection (g). The lower the value, the greater the reduction in incident sunlight intensity by the sun protection.

Annotation

Product characteristics

Squid is a textile solution that results from a series of production processes. Despite the harmonized standards in the weaving process and post-treatment, different productions may fluctuate on certain parameters. Small deviations and imperfections are inevitable and typical of the development of the Squid textile solution and are therefore accepted.

A maximum of 3 weaving errors (marked with a red sticker) are accepted on a roll of 50m.

Storage

Squid can be stored in a horizontal position in its original packaging for a period of 2 years in an area with the following characteristics:

- Temperature from 15°C to 25°C
- Relative humidity from 10% to 55%

In order to avoid air bubbles and tunneling which could cause permanent deformations, Squid must always be kept tight around its carton core, with its beginning and end fastened by tape in three evenly distributed places on the roll, i.e. far left, middle and far right.

Squid rolls can be stored vertically and horizontally. In the latter case, the surface must be chosen so that (imprint) damage is avoided.

Service life

Squid has a service life of minimum 5 years providing that Squid is correctly installed on a vertical glass surface and used without any removal and repositioning after the activation of the glue. Strict compliance with the storage, application and maintenance instructions is necessary to ensure the service life of Squid.

Important notice Information on physical and chemical characteristics and values in this document are based upon tests we believe to be reliable and do not constitute a warranty. They are intended only as a source of information and are given without guarantee and do not constitute a warranty. Purchasers should independently determine, prior to use, the suitability of this material to their specific use.

All technical data are subject to change. In case of any ambiguities or differences between the English and foreign versions of this document, the English version shall be prevailing and leading.

Disclaimer and warranty Avery Dennison warrants that its Products meet its specifications. Avery Dennison gives no other express or implied guarantees or warranties with respect to the Products, including, but not limited to, any implied warranties of merchantability, fitness for any particular use and/or non infringement. All Avery Dennison products are sold with the understanding that the purchaser has independently determined the suitability of such products for its purposes. The period of warranty is one (1) year from the date of shipment unless expressly provided otherwise in the product data sheet. All Avery Dennison's products are sold subject to Avery Dennison's general terms and conditions of sale, see <http://terms.europe.averydennison.com>. Avery Dennison's aggregate liability to Purchaser, whether for negligence, breach of contract, misrepresentation or otherwise, shall in no circumstances exceed the price of the defective, non-conforming, damaged or undelivered Products which give rise to such liability as determined by net price invoices to Purchaser in respect of any occurrence or series of occurrences. In no circumstances shall Avery Dennison be liable to Purchaser for any indirect, incidental or consequential loss, damage or injury, including without limitation, loss of anticipated profits, goodwill, reputation, or losses or expenses resulting from third party claims.