

# HIGH QUALITY SOLUTIONS FOR A WIDE RANGE OF APPLICATIONS IN THE APPLIANCE INDUSTRY

### Stokvis Tapes products are more energy-efficient, lightweight and quieter

Nowadays, global market is asking manufacturers to develop lighter, quieter and more energy-efficient home and professional appliances due to strict governmental regulations. At the same time, manufacturers are required to use innovative and sustainable production technologies and improve assembly efficiency. Furthermore, in the next few years we will see an increasing demand for smart, multitasking appliances, equipped with large displays and touch screens, integrated with camera, sensor, voice command, and WIFI components. From sustainable point of view repairability and recyclability will play an increasingly important role. All developments in which self-adhesive tapes and related materials play a major part, and in which Stokvis Tapes is happy to support.

### Why Stokvis?

Our goal is to offer high quality solutions to improve customers' operational efficiencies and to minimize materials' waste. You will find that our products are more energy-efficient, lightweight and quieter.

Stokvis Tapes will help you improve your production process, reduce costs, help you develop new products and sell more.

How do we do this?

- Knowledgeable and experienced material and converting specialists within the appliance market.
- Global reach local support.
- ISO 7 & ISO 8 cleanroom production facilities.
- Innovative, cost-effective solutions for simple to complex needs.
- Full spectrum of rotary, flatbed and laser die cutting to match your needs.
- · Technical support & lab testing.

### **Our solutions**

To meet these needs, Stokvis Tapes offers optimal solutions of high-quality products for a wide range of applications in the appliance industry.

Our solutions are designed for the following applications:

- Structural mounting of plates, signs and trims
- · Air gap bonding of control panels and electrical components
- Optically clear adhesive (OCA)
- Assembling of parts made of various substrates
- · Fixing coils and small parts
- Temporary fixing of movable parts during transport
- Surface protection during production, transport and handling
- Electrical insulation and flame retardants
- . Thermal insulating and heat management
- Grounding and EMI/RFI shielding
- . Venting moisture and air during foaming process
- NVH insulation and reduction
- · Sealing and protection against dirt, dust, grease, moisture and water



Stokvis designs adhesive solutions for all major appliances. Both for domestic and industrial use.

- Cookers
- Ovens
- Dishwashers
- Microwaves
- Freezers
- Dryers
- Refrigerators
   Washing machines
- Hoods

For bonding and quick mounting Stokvis Tapes uses different pressure sensitive adhesive layers which we customize to your materials, like:

- Acrylics (conductive and non-conductive)
- Rubbers
- Silicones

Wide choice of adhesive carriers:

- Paper
- PET
- PVC
- MOPP
- Aluminum
- Foams
- Laminates
- Polyamide
- Copper



### **Customizing and precision manufacturing capabilities**

Stokvis Tapes delivers focused and specialized services to meet the needs of your product. Our industry leading service capabilities are dedicated to ensure that production and environment are optimized and controlled, to meet the specific needs of each customer and application.

Our service goes beyond providing the best tape for your application. Understanding your needs and requirements is the first step in creating the perfect product for you. With our converting machines, we can customize tapes to any desired size or shape.



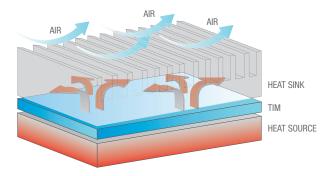
### Thermal managment

### **Application**

We provide materials that selectively control hot spots and protect heat sensitive parts.

### **Products**

Thermal Interface Materials (TIM). We supply highly thermal conductive and electrical insulating solutions. This comprehensive range of self-adhesive Thermal Interface Materials combines bonding of the heat source to the heat sink, enabling efficient cooling of the electronic components simultaneously. Besides excellent thermal conductivity these TIM's have good heat and weather resistance.





### Assembly of touchscreens and displays

#### **Application**

Our acrylic foams are excellent for structural mounting of control panels and other components made of glass, plastic or metal.

#### **Products**

Acrylic foam tapes are special self adhesive viscoelastic closed cell foam cured by using UV light. Its structure is filled with glass microspheres. That gives exceptional cohesive strength and resistance to the foam, in addition to softness and flexibility charcateristics that means great conformability. The viscoelastic properties allow the adhesive to flow into the microscopic surface of materials and perform an excellent adhesion on all types of surfaces.

It has high resistance to ageing, temperature, humidity, water and UV light. Additionally, it features vibration dampening, shock absorption, sealing and thermal expansion. It is used for various mounting/bonding applications like mounting of signs and graphics, replacement of mechanical fasteners and welds. It is also used for bonding of metal and glass.



### Coils fixing and thermal control

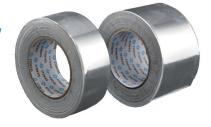
#### **Application**

Stokvis aluminium and alu/PET tapes are able to fix cooling elements and manage the thermal control of different equipment.

#### **Products**

Stokvis Tapes developed a wide range of single sided tapes with an aluminium or aluminium/PET carrier. They are available in different thicknesses and a high-performance acrylic adhesive. Both versions with and without liner are available.

Linerless aluminium tapes are easy to apply in the process and prevent management of liner waste, resulting in a high sustainable solution. The aluminium backing provides excellent heat conduction and low moisture vapor transmission



### **Grounding and shielding of electromagnetic interface**

### **Application**

Stokvis supplies self-adhesive tapes coated with an electrically conductive acrylic adhesive for EMI/RFI shielding and static discharge applications. We have several carriers available like copper, copper plated PET fabric, PU grounding pads or nickel-copper based conductive foam.

### **Products**

Self-adhesive single sided dead soft copper, also available with embossed copper foil, gives good conformability to substrates. It is solderable and resists oxidation and discoloration. The acrylic adhesive is highly conductive to ensure good conductive properties for prevention of static charge build-up.



Rectangle shaped grounding pads consist of an electrically conductive, copper plated polyester fabric wrapped around open cell polyurethane foam. These customized grounding gasket for EMI/EMC applications are highly conductive and have a good compression set. Ideally used as grounding and thermal conductive pads for gap tolerance filling.

Nickel-copper based conductive foams. Excellent combination of low compression with high shielding characteristics. These XYZ-Axis electrically conductive acrylic foam pads conduct electricity through the thickness (Z-axis) and in the plane of the adhesive (X, Y planes). These features make them ideal for EMI/RFI shielding and as EMI/RFI gaskets to metal surfaces. Available in several thicknesses, with and without conductive self-adhesive.



### **Electrical insulation and flame retardancy**

### **Application**

ITW Formex® understands insulation safety needs and requirements as well as engineering design considerations in appliances.

### **Products**

ITW Formex® These polypropylene and polycarbonate flame retardant materials provide superior electrical insulation and barrier materials for use in household appliances. It is also useful as a thermal and electrical barrier material which is reflected in its UL 94V-0 Flame Class Rating. The foldable insulating material is available in rolls and sheets, and it can be easily fabricated into a wide range of shapes.



### **Applications**

- Electrical insulation in the area of controls behind the PC board for electrical shorting protection.
- Protection from shorting out and from moisture in the heating and cooling cycles.
- As a motor shield at the base of the unit and, in some cases, as electrical insulation around the controller boards at the top of the units.

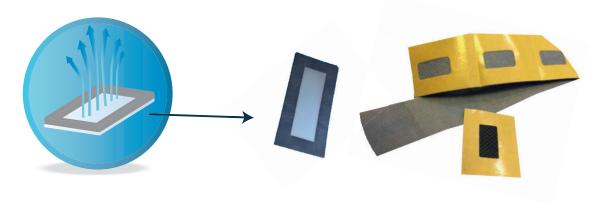
### Air circulation and moisture control

### **Application**

Our "venting tapes" allow air and moisture flow, trapped during the foaming process, avoiding foam leakage.

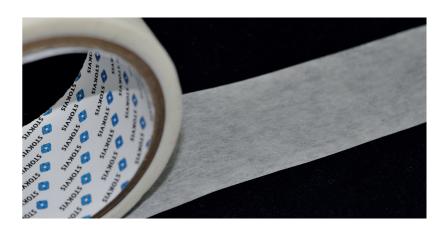
#### **Products**

Single-sided vent tape has a thin, conformable, porous, non-woven carrier that allows high air permeability, without tearing. The acrylic adhesive insures a good adhesion level. It is used in applications where there is a need for trapped air or moisture to be able to escape. This high-quality filter material combines the protection against intrusion of dust and water with high ventilation properties. As you would expect from us as a converter, the vents can be tailor made to maximize your design flexibility.



We also have version, a single-sided tape, consisting of a thin, conformable, porous, non-woven tissue carrier that allows high air permeability, without tearing. The acrylic adhesive insures a good adhesion level.

It is for example used as ventilation filter enabling trapped air or moisture to escape during foaming of doors and panels at white goods manufacturing.





### Sealing from dust, water and air

#### **Application**

Our foams gaskets provide an excellent seal from external agents.

#### **Products**

Foam products are studied and designed to perform acoustic absorption, reducting vibration and minimize shocks. Thanks to the physical properties of polyurethane (PUR), polyethylene (PE) and EPDM materials.

Our product range offers single- or double-sided self-adhesive foam tapes as well as non-adhesive. Adhesives are studied to perform well on all types of surfaces, including low energy ones. Lots of different types of adhesive layers like modified acrylic adhesive or rubber are available. All have good tack and final adhesion and are conformable to irregular surfaces.

Stokvis Tapes is able to support you with the right choice among a broad range of thicknesses, densities, colors and open/closed cells to perfectly match your needs. Our range of foams can be customized on request, like die cuts with easy to remove liners, making it easy to apply.





### Noise, vibration, harshness — NVH insulation

### **Application**

Stokvis Tapes proprietary branded substrates and adhesives are an ideal solution for noise, vibration and harshness reduction of industrial and home appliances.

### **Products**

StokLite and StokPad are effective noise and vibration absorption solutions, used for acoustic management in the appliances market.

StokLite is an ultra-microfiber noise-absorbing material that features a layered construction: 100% polypropylene (PP) cover scrims on both sides, 55% PP ultra-microfibers, and 45% polyester staple.

This product is produced in thicknesses ranging from 12mm to 25mm.

StokPad comprises a range of sound-absorbing fleeces typically made from spunbond PP and thermally bonded PET. This product is produced in thicknesses ranging from 10mm to 20mm. These high performance, hydrophobic, self-extinguishing, low-weight, self-adhesive products are easy to convert and supplied in a variety of colors.

Thanks to their flexible structure, they can easily follow the shape of different surfaces and components. StokLite and StokPad have low emissions and also provide excellent solutions for anti-squeak, dust sealing and thermal insulation.







### Fixing of internal and external components

### **Application**

We supply materials suitable for bonding on difficult low energy surfaces, for example to attach a logo, glass touch panel or plastic bracket to the appliance.

#### **Products**

Regarding internal and external bonding aims, our range of double sided tapes is what you are looking for: you can choose among different carriers, adhesives and liners that will satisfy all your needs.

#### **Tissue Tapes**

Paper tissue carrier tapes are a good choice to reach good balance between initial tack, peel adhesion and holding power. The rubber adhesive system confers good adhesion to low energy surfaces as well as stainless steel, HIPS and aluminium. This tape is widely used in the refrigeration industry.

#### PET Tapes

Double coated PET tapes are the right choice to have secure bonding in industrial appliances. Its polyester carrier and modified acrylic adhesive confers very good tensile strength and resistance to ageing, humidity, temperatures, chemicals and UV-light. It has very good adhesion and shear resistance to low surface energy materials as well as metal, glass, varnish and other high surface energy materials.



### Fixing of movable parts during transport

#### **Application**

Don't let your appliances get ruined during transport, after great work put into them! Stokvis Tapes takes care about your products during critical points.

Our MOPP products are able to secure movable parts leaving cleaned surfaces without any residues, combining good adhesion and high tensile strength in longitudinal direction.



Secure fixing of components like bins, drawers, shelves and other adjustable appliance parts is never been that easier.

Last but not least, the blue colour makes it easy for the end user to recognize and remove the tape before using the household appliance.



### Surface protection

#### **Application**

Our protective tapes are able to preserve your product during transport and assembly

### **Products**

Stokvis protective film tapes are highly formable and available with different backings like PE and PVC foils in many thicknesses. These self-adhesive products are used to protect various surfaces from mechanical impact and against dust and dirt during handling of appliances. Being clean removable and resistant to UV, chemicals, moisture and ageing make these self-adhesive foils suitable for protecting various household appliances during production, storage, transport and installation.



### **Steam protection**

### **Application**

This single sided self-adhesive tape protects the bottom of the worktop against moisture and steam coming out of the dishwasher.

### **Products**

The self-adhesive steam protective tape is applied between the dishwasher and the underside of the worktop. The clear transparent film tape has high adhesive strength on common worktop materials and is resistant to steam, moisture, cleaning agents and contaminants such as grease.





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