AFTC High Performance Tapes

Industrial 5355, 5356, 5357, 5391, 5392

PRODUCT INFORMATION 04.2010

Application

SilverTape® Industrial 5355, 5356, 5357, 5391, 5392

Are double sided high performance acrylic based adhesive tapes, which are especially designed for the bonding of high and medium energy surfaces such as glass, steel, aluminum, ceramics and various plastics e.g. rigid PVC, ABS, including nickel coated ABS, and polycarbonate. The tapes are capable of absorbing the differing thermal expansions of the two different materials. These types maintain high impact resistance even at temperatures below 0 ˚Celsius.

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This 53-serie has a very high cohesion (high internal strength). This family is very well suitable for the bonding of high and medium energy surfaces such as glass, steel, aluminum, ceramics and various plastics e.g. rigid PVC, ABS, including nickel coated ABS, and polycarbonate. Other features include high initial tack and good plasticizer resistance. Advantage of the excellent adaptability is that thin or textured surfaces can be bonded full surface and tension free. The tapes are capable of absorbing the differing thermal expansions of the two different materials. Important is to avoid stress and tension on the bond during application. Noteworthy is the good impact resistance of the AFT types at temperatures below 0 °Celsius. These AFT types have been developed for the bonding of powder-coated surfaces and have excellent adhesion performance to many plastics such as soft PVC and polycarbonates. Application are for example roof and wall panels (cladding) trucks, trailers, lighting streets, advertising, road signs and furniture manufacturing.

General Information

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Have a closed cell structure which is wind and water resistant. Because they are 100% acrylic based, they will form an almost indestructible bond between the materials. This family is resistant to UV, ageing, softening agents and solvents (good plasticizer resistance). These tapes bond immediately and offer a perfect resistance to the peel and shear loads that can affect a bond. These types are very well suited to absorb dynamic loads as they are viscoelastic, they can act as a sealant, form a permanent tension free bond, and are suitable to bond many different types of synthetic materials. Our production facilities have more than 15 years of experience producing these acrylic foam tapes and are ISO 14001, ISO 9001 and ISO/TS 16949 certified.

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Structure

Tape type:	*5355*	*5356*	*5357*	*5391*	*5392*
Adhesive:	High Performance Acrylic				
Adhesive carrier:	Conformable Closed Cell Acrylic Foam				
Description:	Excellent Initial Tack				
Coating:	Coating 40 (liner side) Coating 40 (open side)				
Thickness:	1,60 mm	1,60 mm	1,60 mm	2,30 mm	2,30 mm
Tolerance:	± 0,1 mm	± 0,1 mm	± 0,1 mm	± 0,1 mm	± 0,1 mm
Density:	840	840	840	840	± 0,1 mm
Tape Color:	White	Gray	Black	Gray	Black
Liner:	Red PE film (paper liner is optional)				

Tape Characteristics

Tape type:	*5355*	*5356*	*5357*	*5391*	
Peel Adhesion (ASTM D 3330):	390 N/100mm	390 N/100mm	390 N/100mm	390 N/100mm	390 N/100mm
Normal Tensile (ASTM 897):	540 kPa	540 kPa	540 kPa	500 kPa	500 kPa
Dynamic Shear:	310 kPa 20min.	310 kPa 20min.	310 kPa 20min.	300 kPa 20min.	300 kPa 20min.
Overlap (ASTM 1002):	540 kPa 24 h.	540 kPa 24 h.	540 kPa 24 h.	500 kPa 24 h.	500 kPa 24 h
Static Shear (ASTM 3654):	490 kPa	490 kPa	490 kPa	440 kPa	440 kPa

Solvent Resistance:	Excellent
UV Resistance:	Excellent
Temperature Resistance:	
Long term:	100 °C
Short term:	160 °C

Available Sizes

Standard Length:	16,5 m
Maximum Length:	66,0 m
Core Diameter:	75,0 mm
Standard Width Tolerance:	± 0,4 mm

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Manual Production

Every good bond starts with good preparation. This preparation consists of several steps, such as cleaning, use of a primer and the right working area. Please ensure that your workshop area is in a dust free environment and has a minimum room temperature of ca. 15 ˚Celsius.

Cleaning

Before you begin, always check how dirty the materials that you want to bond are. If they are highly contaminated with oil or grease, clean it with an industrial cleaner (SilverTape® Cleaner) or a heptanes solution. Even when the surface is clean, use our SilverTape® Cleaner, which is a 100% Isopropanol solution. Ensure that you wipe the surface in just one direction, so that the dirt is wiped off. If you do not do this you will always leave some dust or dirt on the substrate.

Quality

The quality of the bond also depends largely on the contact that the two surfaces make with each other. Because of its viscoelasticity, the tape is able to flow into the microscopic pores of the materials. However, if there is a big surface mismatch or if the materials are not pressed together the bond will reach its end strength more slowly, or not at all. Therefore we advise you to put pressure on the bond of at least 100 kPa to allow the tape to make a perfect bond between the two materials.

Maximum Bond

The end strength will be reached much faster if you use our SilverTape® Primer no. 22. This enables the tape to reach its end bond within 5 – 20 minutes instead of taking 72 hours. On making the bond the tape without the primer normally has 50% of its final bond strength and with use of the primer this will be boosted up to 80%. If you have any questions regarding the primer, the manual or the mechanical application, please contact our technical sales team.

Storage & Shelf life

Please make sure that the tape is stored in its original packaging, in a dry place and at a temperature of preferably between 4 ˚C and 38 ˚Celsius. When the tape is stored under the right conditions it has a shelf life of 18 months.

Important Information

All technical data in this product data sheet is based on our own experience and external test institutes. These values are representative and cannot automatically be used for your own specific application. You will first need to test whether the tape is suitable for your application or project.
We must point out that you need to follow the rules and regulations that are applicable in the state, county or country that you are using our product in. If you have any questions regarding the use of our acrylic foam tape, please contact our technical service or technical sales team. For questions on the warranty we refer to our delivery terms and conditions, or another warranty document should be agreed on in writing between us and the customer. SilverTape® is a brand name of AFTC.