8412
ACF

Product Information

45µm amber anisotropic conductive HAF tape

Product Description

tesa® HAF 8412 is an amber heat activated adhesive film based on reactive phenolic resin and nitrile rubber containing conductive particles.

Special features:
*Reliable chip bonding and electrical connectivity in one step
*Good workability on all common implanting lines
*Suitable for PVC, ABS and PC cards (DI)
*Good ageing resistance

Thickness: 45 µm (mean value of particle size)

Product Features

- Excellent grounding performance in applications with structural bonding requirements
- High bonding strength in narrow and small bonding areas
- Good ageing resistance
- Reliable SmartCard chip bonding and electrical connectivity in one step
- Suitable for PVC, ABS and PC SmartCards (DI)

Application Fields

tesa® HAF 8412 is designed for the embedding of chip-modules into dual interface smart cards for contact less and contact based applications.

Technical Information (average values)

The values in this section should be considered representative or typical only and should not be used for specification purposes.

Product Construction

• Backing	none	• Total thickness	50 µm
• Type of adhesive	nitrile rubber / phenolic resin	• Color	amber
• Type of liner	glassine		

Properties/Performance Values

• Activation temperature	120 °C	• Contact resistance z-direction	200 mOhm
• Bonding strength	4 N/mm^2		

For latest information on this product please visit http://l.tesa.com/?ip=08412

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Additional Information

Technical Recommendations:
The following values are recommendation for machine parameters to start with. Please note that optimum parameters strongly depend on the type of machine, particular materials for card bodies and chip-modules as well as customer requirements.

1.Pre-lamination:
During pre-lamination, the adhesive tape is laminated onto the module belt. The pre-lamination step does not effect the shelf life time of the adhesive tape. Pre-laminated module belts can be stored over the same period of time as the adhesive tape.

Machine setting:
*Temperature 130 – 150 °C
*Pressure 2 – 3 bar
*Speed 1.5 – 2.5 m/min

2. Module Embedding:
During module embedding, the pre-laminated modules are die-cut from the module belt, positioned into the card cavity and permanently bonded to the card body by heat and pressure. Depending on the type of the implanting line, single step or multiple step process can be used. Today, most implanting machines have multiple heat press steps.

Single step process – Machine setting:
*Temperature[1] 180 – 220 °C
*Pressure 80 – 130 N/module
*Time 1.5 s
Multiple step process (2 or more heating stamps) – Machine setting:
*Temperature[1] 180 - 220 °C
*Pressure 80 - 130 N/module
*Time 2 x 0.7 s / 3 x 0.5 s

[1]Temperature recommendations refer to what can be measured inside the heating stamp. Different temperature settings are recommended for different card material:

PVC 180 – 190 °C
ABS 180 – 190 °C
PET 190 – 200 °C
PC 200 – 220 °C

To reach maximum bonding strength surfaces should be clean and dry. Storage conditions according to tesa® HAF shelf life concept

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