

tesa[®] HAF 8440 HS



Product Information

40µm/1.6 mils translucent HAF mounting tape

Product Description

tesa HAF[®] 8440 is a heat activated, double-sided translucent adhesive film based on thermoplastic copolyamide.

Special Features:

- *Reliable chip module bonding
- *Suitable for PVC, ABS and PC cards
- *Good workability on all common implanting lines
- *Good ageing resistance
- *Invisible on assembled card

Application Fields

tesa HAF[®] 8440 is especially designed for the embedding of chip-modules into smart cards.

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 | • Type of liner | glassine |
| • Type of adhesive | copolyamide | • Total thickness | 40 µm
1.6 mils |

Properties/Performance Values

- | | |
|------------------------------------|----------------------|
| • Bonding strength (dynamic shear) | 12 N/mm ² |
|------------------------------------|----------------------|

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. This step can be performed inline or offline. The pre-lamination step does not effect the shelf life time of the adhesive tape.

Machine setting:

- Temperature 130 - 140 °C (266-284 °F)

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- Pressure 2 - 3 bar
- Time 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. For this step, the exact handling depends on the type of the implanting line used. Single step and multiple step can be used. Today, multiple step is common:

Single step process - Machine setting :

- Temperature¹ 180 – 220 °C (356-428 °F)
- Pressure 65 - 75 N/module
- Time 1.5 s

Multiple step process (2 or more heating stamps) - Machine setting:

- Temperature¹ 180 – 220 °C (356-428 °F)
- Pressure 65 - 75 N/module
- Time 2 x 0,7 s. /3 x 0.5 s

¹ Temperature as measured inside the heating stamp. Different temperature settings are recommended for different card material:

*PVC 180 - 190 °C (356-374 °F)

*ABS 180 - 190 °C (356-374 °F)

*PC 200 - 220°C (392-428 °F)

For applicants other than chip module implanting, different machine parameters should be used.

Bonding strength values were obtained under standard laboratory conditions. Value is guaranteed clearance limit checked with each production batch (Material: Etched aluminium test specimen / Bonding conditions: Temp. = 120 °C/248 °F; p = 10 bar; t = 8 min)

Storage conditions according to tesa HAF[®] shelf life concept.

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