tesa® HAF 8440 HS

Product Information

Heat activated film for the embedding of chip-modules into smart cards

Product Description

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

Application Fields

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

- Suitable for PVC, ABS and PET cards
- Good workability on all common implanting lines
- Good ageing resistance
- Invisible on assembled card

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 material	none	• Type of liner	glassine
• Type of adhesive	copolyamide	• Total thickness	40 µm

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. Pre-laminated module belts can be stored over the same period of time as the adhesive tape.

Machine setting:

- Temperature 130 - 140 °C
- Pressure 4 - 6 bar
- Time 1,5 - 3,0 s

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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. For this step, the exact handling depends on the type of the implanting line used. Today, two different ways are most common:

Single step process - Machine setting (low temperature):

- Temperature[1] 160 – 190 °C
- Pressure 65 N/module
- Time 2,0 – 4,0 s

Single step process - Machine setting (high temperature):

- Temperature[1] 180 – 210 °C
- Pressure 65 N/module
- Time 1,0 – 1,5 s

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

- Temperature[1] 180 – 200 °C
- Pressure 65 N/module
- Time (for each step) 0,7 – 1,2 s

[1] Temperature as measured inside the heating stamp

Storage conditions according to tesa® HAF shelf life concept.

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

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