



tesa HAF® 9405

Product Information



Double-sided reactive heat activated film

Product Description

tesa HAF® 9405 is a reactive heat activated film based on phenolic resin and nitrile rubber. This amber double sided tape has no backing. It is protected by a strong paper liner and can easily be slit and die cut.

At room temperature tesa HAF® 9405 is not tacky. It is activated by heat and starts to become tacky at 90°C for pre-lamination. In a second application step heat and pressure is applied over a certain period of time.

After curing tesa HAF® 9405 reaches:

- *Very high bonding strength
- *High temperature resistance of up to 350°C
- *Excellent chemical resistance
- *Resistance against oil and solvents
- *Bonds remain flexible and elastic

Application Fields

It is suitable for bonding of all thermal resistant materials such as metal, glass, plastic, wood and textiles.

- *Friction linings for clutch discs
- *Friction linings for synchronizer rings
- *Brake shims

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 | 30 µm |
| • Type of adhesive | nitrile rubber /
phenolic resin | • Color | amber |
| • Type of liner | glassine | | |

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Properties/Performance Values

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

Additional Information

Processing:

1. Pre-lamination:

tesa HAF® 9405 is laminated to the first substrate before curing. For this process we recommend a temperature between 90°C and 140°C.

2. Bonding:

The bonding conditions temperature, pressure and time depend on the application. Following parameters can be regarded as a guideline:

Friction linings for clutch discs:

*Temperature: 180 – 230°C

*Pressure: > 6 bar

*Time: 3 min

3. Tempering (optional)

To reach the maximum bonding strength the bonded parts can be tempered at 180 - 230°C for 30 - 60 min without pressure.



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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; p = 10 bar; t = 8 min)

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

Disclaimer

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