

TL no 4 ADHESIVES - GENERALITIES

Pressure sensitive adhesives can be classified in several ways:



1. Based on their end-use properties:

3 basic types exist:

A. PERMANENT : an adhesive with high ultimate adhesion for labels that are not intended to be removed.

B. REMOVABLE: an adhesive with low ultimate adhesion on a wide variety of substrates.

C. EXTRA-PERMANENT : an adhesive for application on difficult substrates.

2. Based on their chemical nature

2 basic types exist:

either **ACRYLICS** or **RUBBER** based

3. Based on the way they are coated at the PS Manufacturer

- Solvent base (using petrol based products as solvents).
- Emulsions (using water as dispersant)
- Hot melts (solventless i.e. no organic solvents, nor water but using heat to dissolve the adhesive components)

Other ways of coating PS adhesives exist but are not subject to this paper.



The adhesive properties requested by the converter and end-user as well as additional properties vital for the final application of the self-adhesive material (such as outdoor or indoor use, food contact, type of substrate, longterm or shortterm application etc...) will guide the chemist to develop **the** product that fits **the** specific application.

This may then result in a solvent, emulsion, or hot melt based product.



Adhesive properties are strongly influenced by the conditions under which labels are applied, such as the pressure as well as the nature and the cleanliness of the substrate.

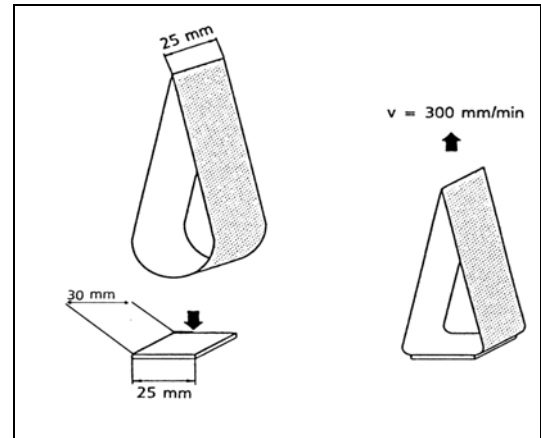
In case of doubt please check the application hints mentioned in TL n° 5 (adhesives for plastic surfaces), in TL n° 6 (adhesives for curved surfaces) and TL n° 7 (adhesives for outdoor applications).

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Adhesive properties are measured by standardized test methods such as :

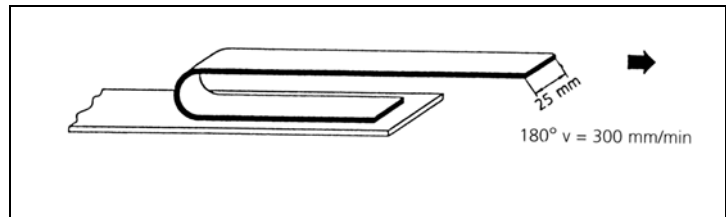
- **Quick Tack**

Initial adhesion on the application surface



- **Peel Strength**

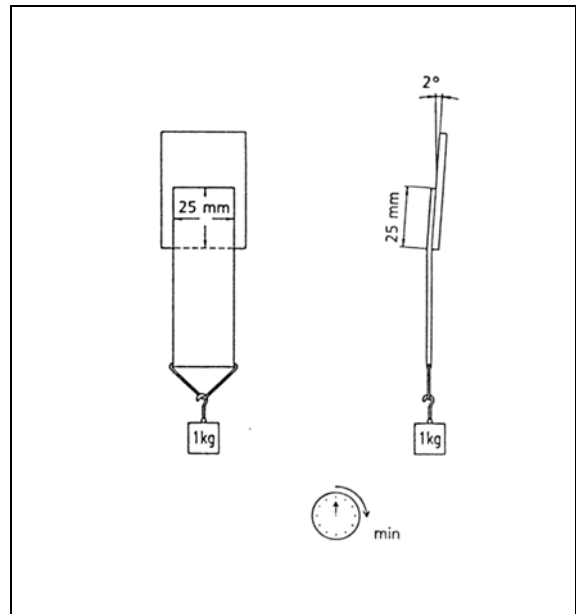
Final adhesion



- **Shear**

Internal cohesion

Standardized Test methods are following procedures laid down by the FINAT, ISO, DIN, ASTM and other organisations. For more information please see specialized documentation.



A summary of the most important adhesives and **adhesive properties** on MACTac's products can be found in the individual Technical Data Sheets.

Based on more than 30 years experience of the pressure sensitive industry, MACTac always guarantees adhesive properties, whatever the technology used to produce the adhesive. Technical Data sheets are available on request and on MACTac Internet web-site <http://www.MACTac-europe.com>.