

ADHESIVE BONDING DEPARTMENT

Activities since 1995

- Participation to different European, prenormative, and collective research projects
- Industrial cases
- Adhesive bonding training (based on the European Welding Federation training for engineers)

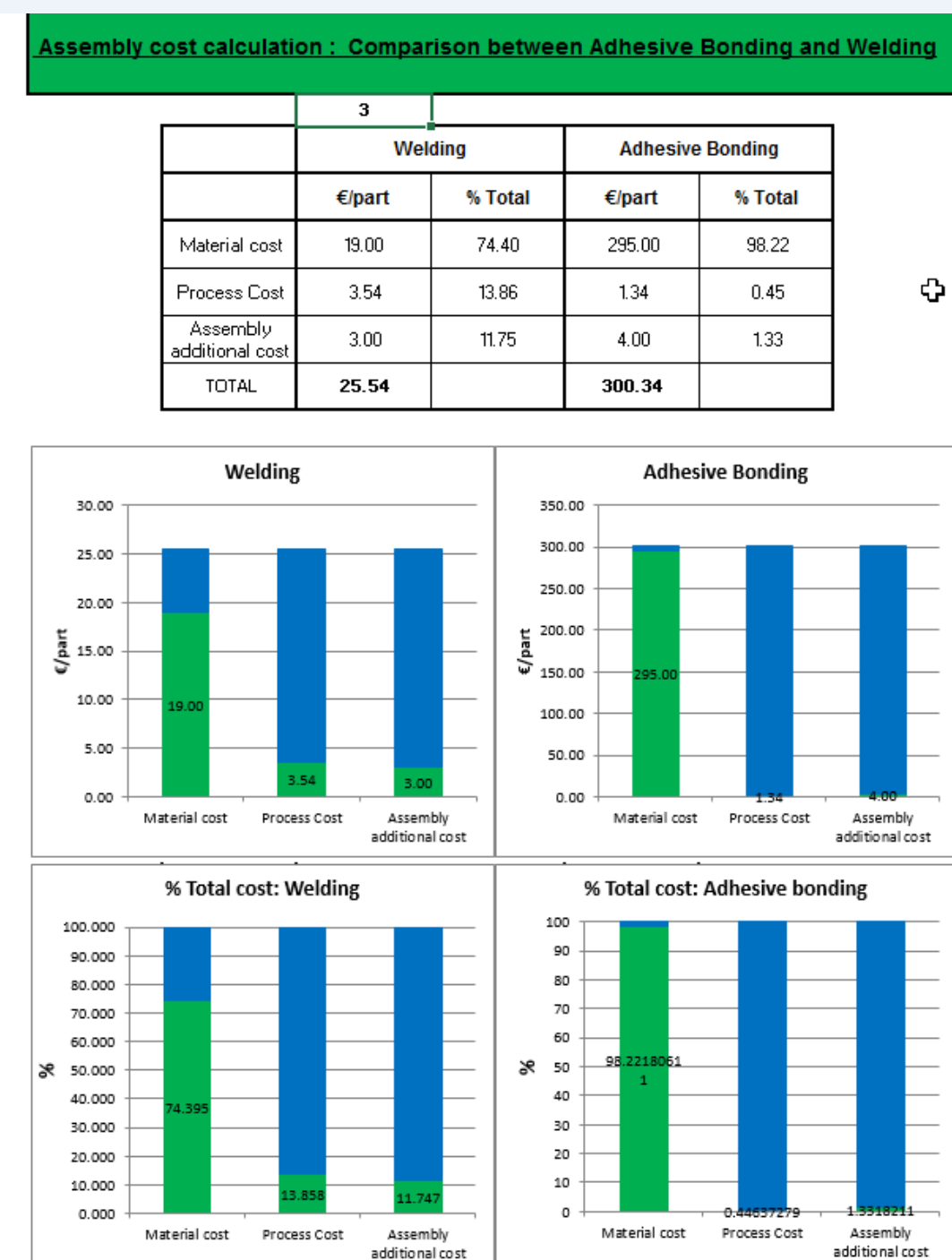
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Applications specifications:

Specifications templates

1 Substrates/Joint characterization	2 Use spécifications	3 Production specifications
111 Substrate 1	21 Assembly functions	21 Assembly functions
112 Substrate 1 : surface state	221 Main sollicitations/joint geometry	Main sollicitations/joint geometry
113 substrate 1 : surface treatment	222 Dynamic/static stresses	221 geometry
121 Substrate 2	223 Stresses level	222 Dynamic/static stresses
122 Substrate 2 : surface state	231 Service temperature	223 Stresses level
123 substrate 2 : surface treatment	232 Peak temperature	231 Service temperature
131 Bonding area	233 Fire behaviour	232 Peak temperature
132 Joint thickness	234 Deformations under thermal stresses	233 Fire behaviour
133 Joint geometry	24 Fluids	Deformations under thermal stresses
14 Parts sizes	25 Electric characteristics	234 stresses
15 Adhesives types	26 Thermal conductivity/insulation	24 Fluids
	271 Optical properties	25 Electric characteristics
	272 Aesthetics/colours	Thermal conductivity/insulation
	28 Nutritious/ medical constraints	271 Optical properties
		272 Aesthetics/colours
		28 Nutritious/ medical constraints

Costs estimation
 Comparison between
 Welding and adhesive bonding



Adhesives choice and Characterization

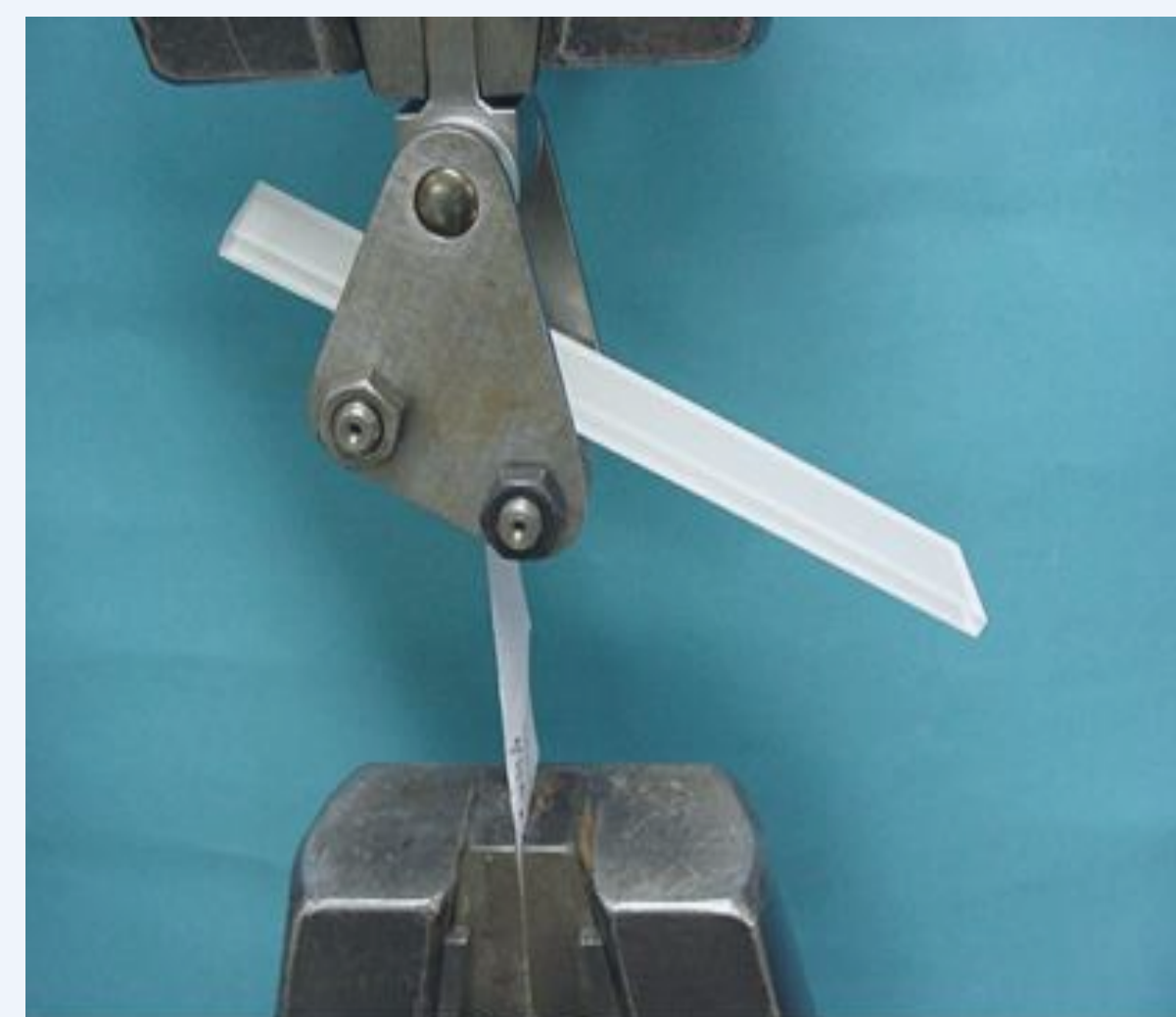
Single lap shear test



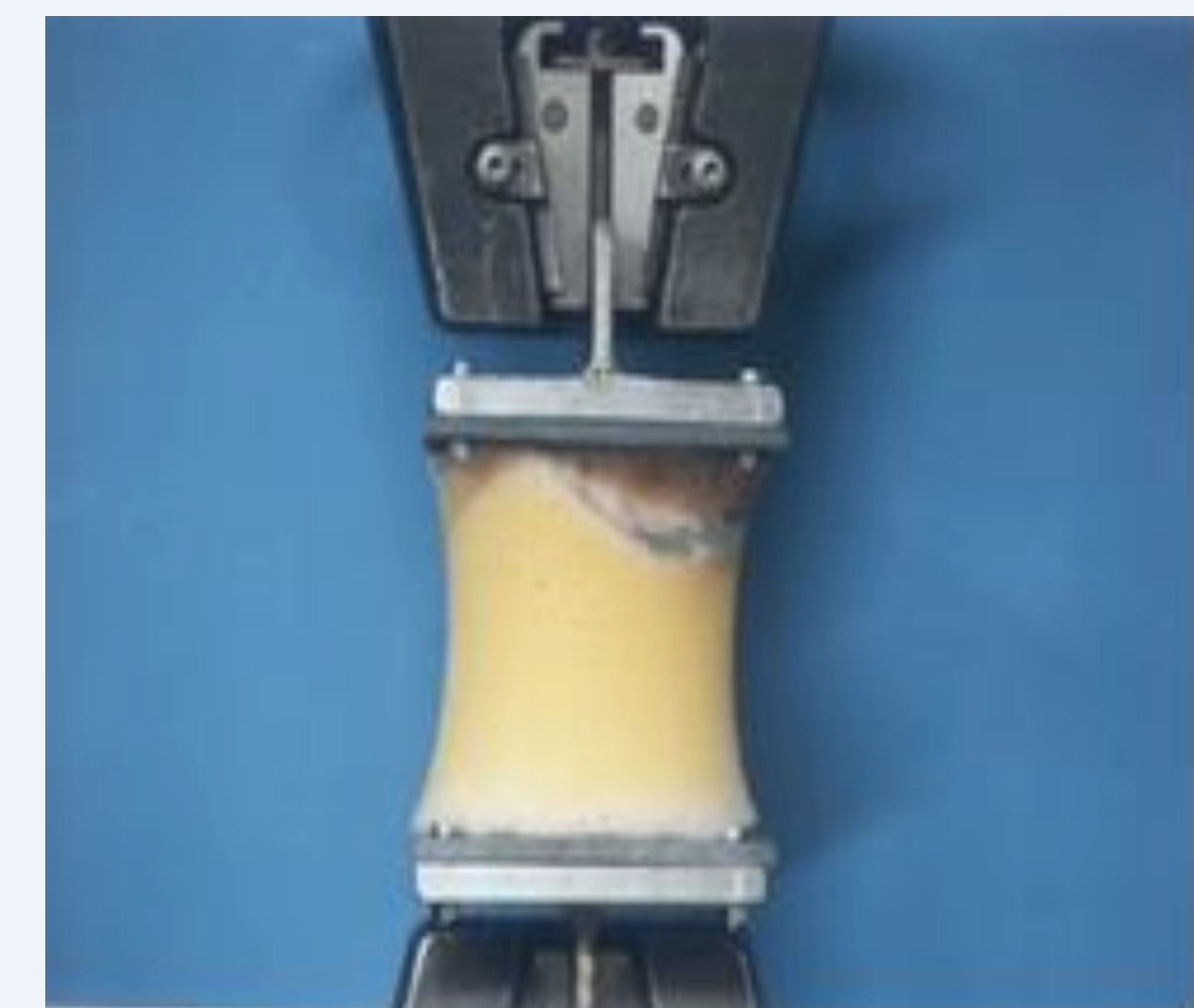
Device allowing joint thickness and overlap length control



Miscellaneous tests

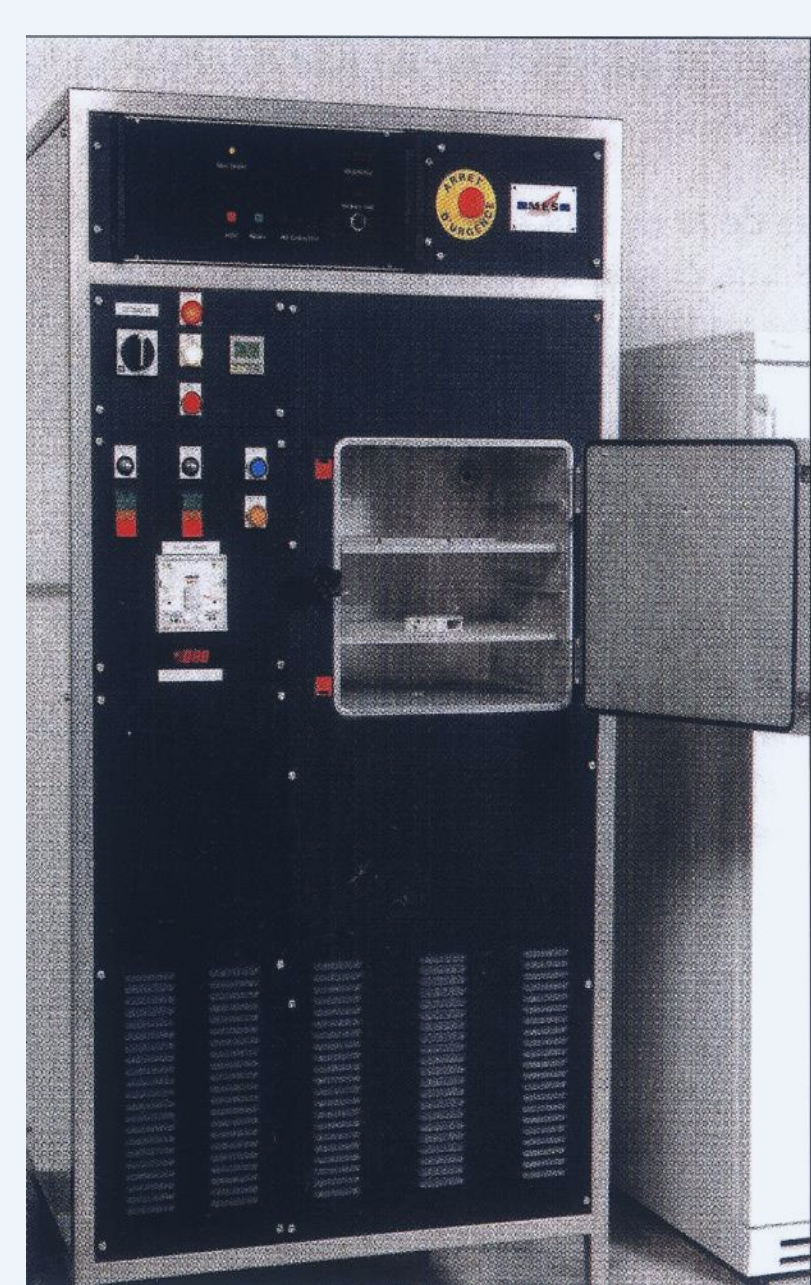


Standard test : peeling test

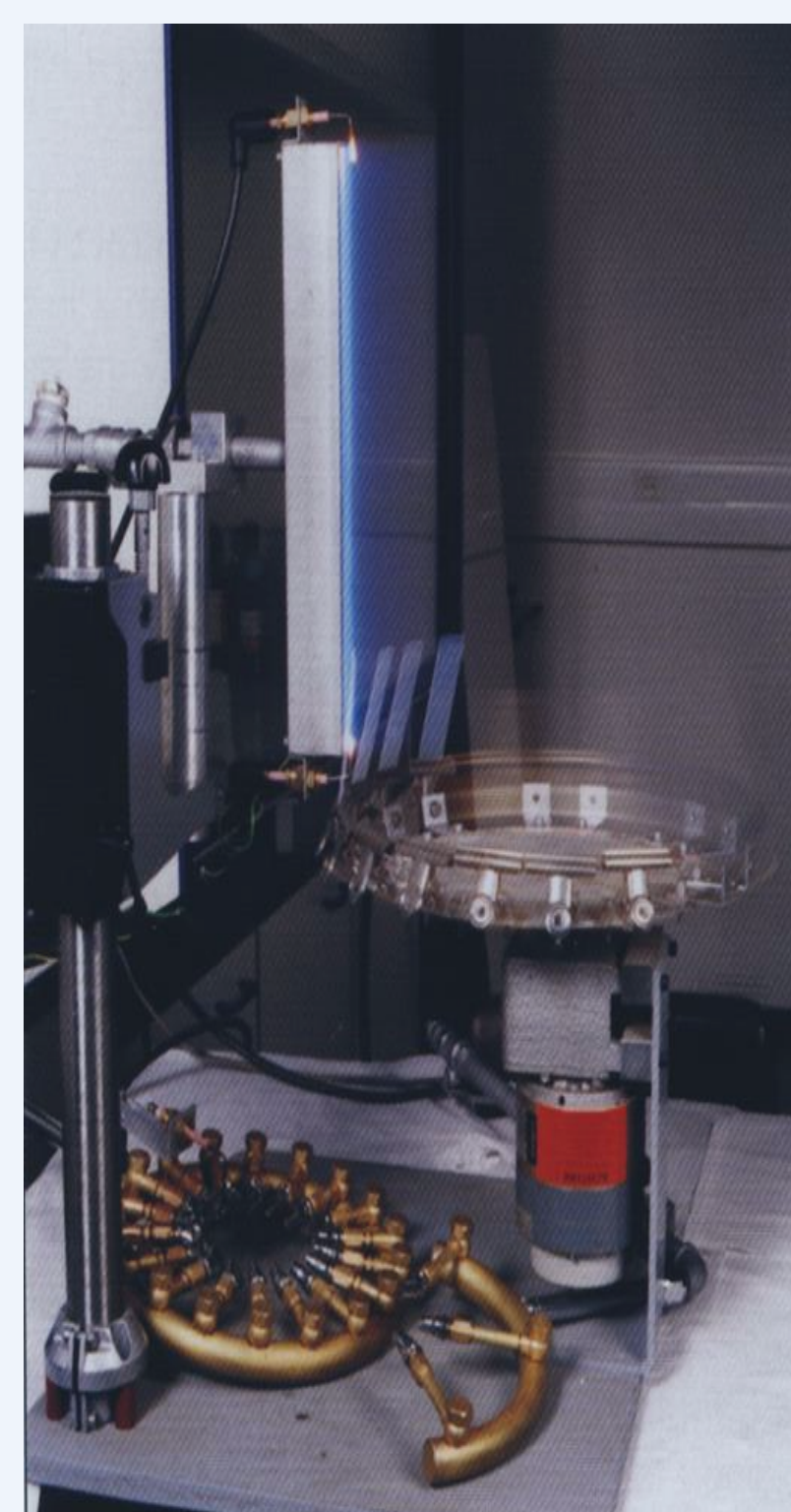


No standard test: tensile test

Surface treatment



Plasma treatment



Flame treatment



UVA 340 and UVB 313
 ASTM D4329 – ISO 4892
 ASTM G154

Ageing



Climatic chamber
 -40°C to 150°C
 ISO 9142

Design and test on prototypes



Mechanical test on solar roof