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## **ADHESIVES AND FIRE: HOW DOES ADHESIVES COMPOSITION INFLUENCE COMBUSTION BEHAVIOR OF ADHESIVES, TAPES AND BONDED PRODUCTS**

Adhesives are part of many constructions which must be safe also in the case of fire. This is mainly to increase the escape time if transport vehicles, like railway, aircraft or ships, or buildings are on fire. It is the question how the composition of adhesives influences the fire behavior of the adhesive itself, but especially of fabrics made with the adhesive and of bonded products / constructions. This will be presented for pressure sensitive adhesives, tapes made with them and bonded parts as example<sup>1</sup>. The three fire scenes ignition, developing fire and full fire are considered. It will be shown that in most cases the adhesives composition has only a minor effect on the combustion behavior of a construction, but the carrier of the tape and the bonded materials interact with the adhesive and in combination they can perform better or worse compared to the bonded base materials alone. In addition, the fire resistance is considered. This property is important for the escape from a burning place but is not directly related to the fire behavior of the adhesive. For this property the adhesives thermomechanical properties in dependence on the temperature are more important.

1V. Hupp, B. Schartel, K. Flothmeier, A. Hartwig, Fire and Materials 48 (2024), 114.127, Fire behavior of pressure-sensitive adhesive tapes and bonded materials.