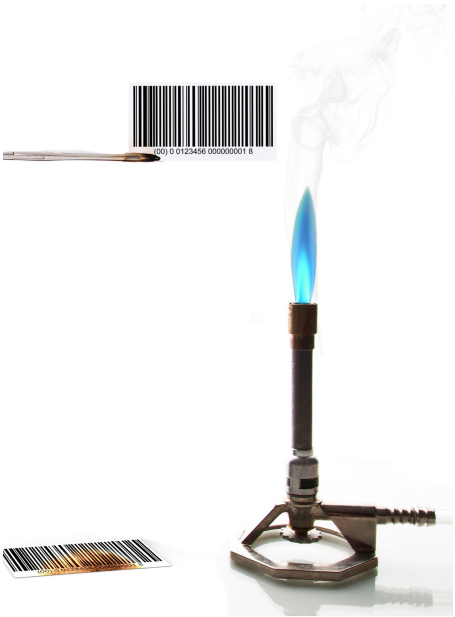
Avery Dennison ADvantage: Complete Compliance

Compliance Quick Facts Sheet



FMVSS 302 - Flammability test for motor vehicle interiors

Federal Motor Vehicle Safety Standards (FMVSS) are U.S. federal regulations. Standard FMVSS 302 relates to the burning behaviour of materials used inside road vehicles such as passenger cars, trucks, buses and agriculture machinery. It was developed to help reduce deaths and injuries to occupants caused by vehicle fires, especially from discarded cigarettes and matches. Most automotive OEMs specify flammability testing based on FMVSS 302 and technically equivalent OEM standards.

The test sample is held horizontally in a U-shaped holder and exposed to a flame for 15 seconds in a combustion chamber, in order to see if/when the flame extinguishes, or the time taken for the flame to pass a defined distance. The burning rate per minute is then calculated. For most automotive applications, a burning rate of no more than 100 mm/min is acceptable, although some vehicle manufacturers have tightened the requirements.

The test protocol described in FMVSS 302 can be used for testing label materials individually, or when applied to substrates.

In addition to FMVSS 302, a standard most relevant for the automotive industry, the flammability of labels can be evaluated against the Underwriters Laboratories Standard UL 94. The Avery Dennison material “Transfer PET40WH TOP FR - AL170” (BN142) can fulfill these harsh requirements. Your sales representative can provide further information.

Avery Dennison ADvantage: Complete Compliance is a global service initiative that helps customers navigate the complexities of regulatory, trade and customer compliance issues. Complete Compliance delivers training, tools and advice that guides customers through regulatory data and certifications to ensure products meet the compliance demands of specific applications.

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FMVSS 302 - Flammability test
Tested Materials

Avery Dennison offers a range of materials that, when tested on their own, meet FMVSS 302 flammability requirements.

		Burning rate (mm/min)	
Product Code	**Product Description**	Machine direction	Cross direction
AA648	PVC outdoor white - AL170	0	0
BO772 / BR635	PVC outdoor white - S8029	0	0
AA948	PVC outdoor matt white - AL170	0	0
BR636	PVC outdoor matt white - S8029	0	0
AZ880	PVC outdoor clear - AL170	0	0
AW627	PVC outdoor matt clear - AL170	0	0
AE492	PVC outdoor yellow - AL170	0	0
BR637	PVC outdoor silver - S8029	97,7	53,3
BO641	Transfer PVC cast white - S8039	0	0
BO643	Transfer PVC cast white - AL170	0	0
BO958	Transfer PVC cast silver - S8039	72,2	78,1
BO946	Transfer PVC cast yellow - S8039	0	0
BN142	Transfer PET40WH TOP FR - AL170	0	0

In addition, several materials have been tested successfully to FMVSS 302 standards when they have been applied full surface to aluminium or slow burning plastic panels used in the automotive industry.

		Burning rate (mm/min)	
Product Code	**Product Description**	on aluminum	on plastic panels
LB450	Transfer rPET white TOP - AL170	0	4,3
LB453	Transfer rPET white TOP - S8029	0	8,6
LB455	Transfer rPET white TOP - S8049	0	4,4
BU455	Transfer PET matt white TC20 - S8002	0	6,1
LB476	Transfer rPET matt white - AL170	0	13,4
AD221	Transfer PET matt chrome TOP- S8030	0	4,9
BS913	Transfer PET Platinum TC19 - S8029	0	5,3
AA146	Transfer PET matt silver - AL170	0	10,7
LB495 +LB450	Transfer rPET white top - AL170 with Overlaminating rPET AL170	0	9,7

For the tests the following plastic panels were used:
Lanxess Durethan BKV30H2.0; Color: 901510, caliper: 3 mm, with a burning rate of 4,1 mm/min.