

ISO/TR 9705-2:2001-05 (E)

Reaction-to-fire tests - Full-scale room tests for surface products - Part 2: Technical background and guidance

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Characteristics of the ignition sources	1
2.1	Standard ignition source	1
2.2	Alternative ignition source	1
3	Sensitivity analyses	6
3.1	General	6
3.2	Specimen configurations	6
3.3	Effect of the burner size	7
3.4	Effect of the stand-off distance of the burner	7
4	Heat balance in the room	7
4.1	General	7
4.2	Heat release by combustion	7
4.3	Heat loss by convection	8
4.4	Heat loss by conduction	8
4.5	Heat loss by radiation	8
4.6	Results of heat balance calculations	9
5	Measuring techniques	9
5.1	Mass flow through the doorway and interface height	9
5.2	Measurement of toxic gases	10
5.3	Mass loss rate from the sample	10
6	Extended calculations	10
6.1	Filling time of room and hood	10
6.2	Prediction of mass flow and interface position	11
6.3	Estimate of sample mass loss	14
6.4	Fire growth models	14
7	Precision data	14
7.1	General	14
7.2	ISO round robin	15
7.3	ASTM round robin	16
8	Other test protocols using similar equipment	16
9	Specimen mounting	17
Annex A	Calculation of HRR by means of different gas analysis data	18
Annex B	Practical example of the measurements of toxic gases by FTIR and ion chromatography ..	26
Annex C	Estimation of mass loss rate by means of HRR and gas analysis measurements	32
Annex D	Overview of other test protocols using similar equipment	35
Bibliography		38