

**NISTIR 6774**

# **Workshop On Fire Testing Measurement Needs: Proceedings**

William Grosshandler  
(Editor)



**NIST**

**National Institute of Standards and Technology**  
Technology Administration, U.S. Department of Commerce



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**Workshop On Fire  
Testing Measurement Needs:  
Proceedings**

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*Building and Fire Research Laboratory*

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**U.S. Department of Commerce**  
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**National Institute of Standards and Technology**  
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*Armstrong World Industries*

Application of Fire Tests

T.W. Fritz

**INTERNATIONAL TESTS**

IGNITION	FLAME SPREAD	HEAT RELEASE	COMBUSTIBILITY
UL 94	ASTM E 84	BS 476 Part 6	BS 476 Part 4
ISO 11925	ASTM E 162	JIS 1321	ASTM E 136
DIN 4102 <i>B2 Burner</i>	ASTM E 648	ISO 1716 NFPA 259	ISO 1182
	BS 476 <i>Part 7</i>	ISO 5660	French M0
	Din 4102 <i>Brandschacht</i>	ASTM 1354	German A0
	EN 13823 SBI	NFPA 264	

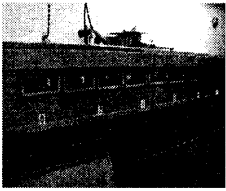
*New Euro Fire Tests*

- prEN ISO 1182 Non-combustibility
- prEN ISO 1716 Calorific Value
- prEN ISO 13823 SBI
- prEN ISO 11925-2 Ignitability
- prEN ISO 9239-1 Flooring Radiant Panel

*Accuracy of Test Methods*


An Example of The Usefulness of Test Methods With Good Repeatability and Reproducibility

*ASTM E84 Test Method for Surface Burning Characteristics*

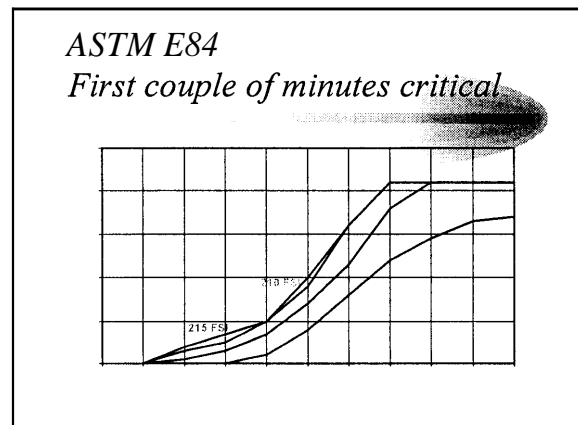
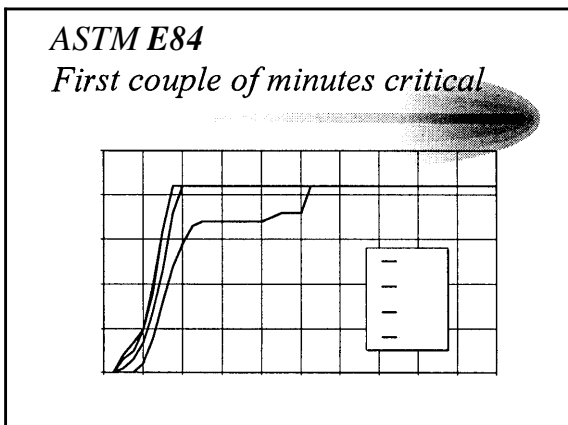
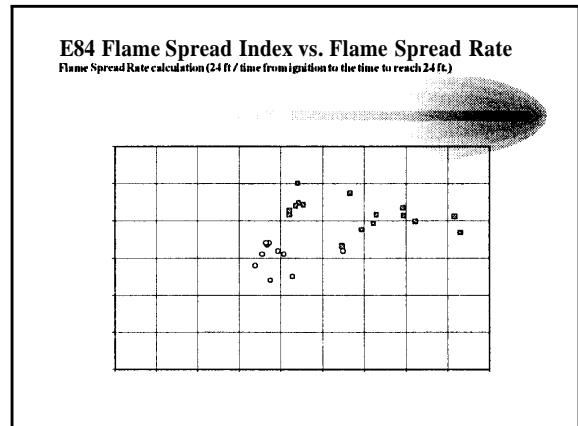
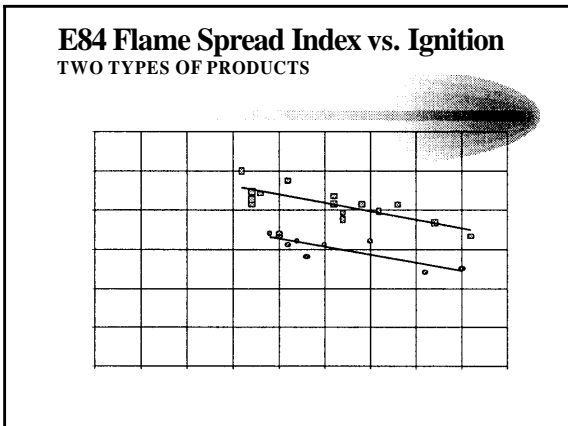
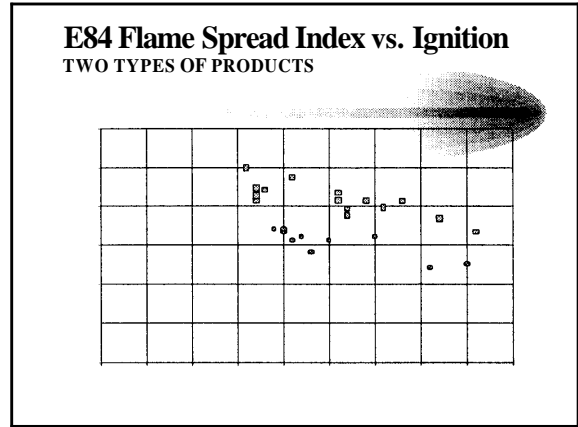
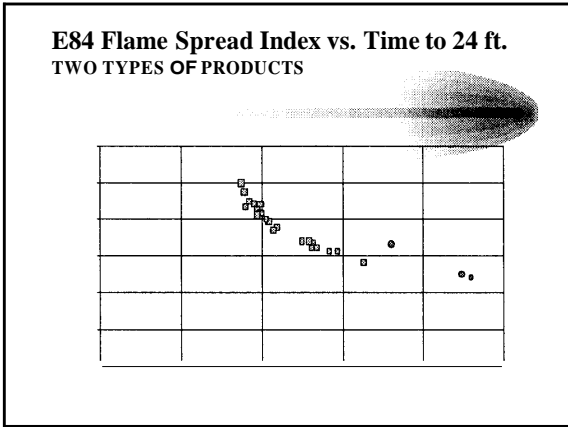


- Flame Spread Index
- Smoke Development Index


*ASTM E84 Test Parameters*



- Specimen tested face down in 24 ft. tunnel
- Air flow through the tunnel set before test
- Burner 5000 Btu/min.




*ASTM E84*  
*Flame Spread Index*



- Ignition
- Flame Spread
- Most critical period is early in the test

*ASTM 1354*  
*Cone Calorimeter*



- Ignition
- Heat Release
- Mass Loss
- Smoke

