

INDUSTRIAL DUST EXPLOSIONS



Cashdollar/Hertzberg, editors

ASTM STP 958

On the cover:

(Bottom) Entrance portal of the Experimental Mine at Bruceton, Pennsylvania. Research on the explosion hazards of coal dust and methane gas has been conducted at this Bureau of Mines facility continuously since 1910 and it is now a National Historical Site.

(Second from bottom) Coal dust explosion propagating outward from the mine portal. This demonstration was conducted for the attendees of the Symposium on Industrial Dust Explosions in June 1986.

(Second from top) Explosion propagation is essentially complete as the hot fireball of combustion products expands and begins to cool.

(Top) Explosion fireball rises as a result of buoyancy forces and continues to cool.

(Photographer: K. L. Cashdollar)

INDUSTRIAL DUST EXPLOSIONS

Symposium on
Industrial Dust Explosions
sponsored by
ASTM Committee E-27 on
Hazard Potential of Chemicals



Bureau of Mines, U.S. Department
of the Interior



National Fire Protection
Association—Committee on
Explosion Protection Systems

Pittsburgh, Pennsylvania, 10–13 June 1986

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Foreword

The Symposium on Industrial Dust Explosions was held in Pittsburgh, Pennsylvania on 10–13 June 1986. ASTM Committee E-27 on Hazard Potential of Chemicals, the Bureau of Mines, and the National Fire Protection Association—Committee on Explosion Protection Systems were the sponsors. Kenneth L. Cashdollar and Martin Hertzberg, both with the Bureau of Mines, served as symposium chairman and co-chairman, respectively, and have edited this publication. Robert P. Benedetti, National Fire Protection Association, and Thomas F. Hoppe, Ciba-Geigy Corp., were also symposium co-chairmen.

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A Note of Appreciation to Reviewers

The quality of the papers that appear in this publication reflects not only the obvious efforts of the authors but also the unheralded, though essential, work of the reviewers. On behalf of ASTM we acknowledge with appreciation their dedication to high professional standards and their sacrifice of time and effort.

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