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| Nota di contenuto | Deflagration and Detonation Flame Arresters; Contents; Preface; Acknowledgments; Acronyms and Abbreviations; 1 Introduction; 1.1. Intended Audience; 1.2. Why This Book Was Written; 1.3. What Is Covered in This Book; 1.4. What the Reader Should Learn from This Book; 1.5. Units of Measure; 2 History and State-of-the Art; 2.1. Historical Development of Flame Arresters; 2.2. Case Histories of Successful and Unsuccessful Applications of Flame Arresters; 2.2.1. Successful Applications; 2.2.2. Unsuccessful Applications; 2.3. Evolution of Standards and Codes; 2.3.1. United States; 2.3.2. Canada 2.3.3. United Kingdom 2.3.4. Europe and International; 2.4. Safety Concerns and Environmental Regulations: Tradeoffs and Conflicts; 2.5. References; 3 Overview of Deflagration and Detonation Prevention and Protection Practices; 3.1. Introduction; 3.2. Deflagration and Detonation Flame Arresters; 3.3. Deflagration Venting; 3.4. Oxidant Concentration |

Reduction; 3.5. Combustible Concentration Reduction; 3.6. Deflagration Suppression; 3.7. Deflagration Pressure Containment; 3.8. Equipment and Piping Isolation; 3.9. References

4 Overview of Combustion and Flame Propagation Phenomena Related to DDAs

4.1. Introduction to the Chemistry and Physics of Flame Propagation; 4.1.1. Combustion Chemistry and Thermodynamics; 4.1.2. Flammability Characteristics; 4.1.3. Decomposition Flames; 4.2. Dynamics of Flame Propagation; 4.2.1. Burning Velocity and Flame Speed; 4.2.2. Flame Acceleration and Deflagration-to-Detonation Transition (DDT); 4.2.3. Detonations; 4.3. Ignition and Quenching; 4.4. Theoretical Basis for Flame Arrester Design and Operation; 4.5. References; 5 Deflagration and Detonation Flame Arrester Technology

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Sommario/riassunto

Designed for chemical engineers and other technical personnel involved in the design, operation, and maintenance of facilities and equipment where deflagration and detonation flame arresters (DDFAs) may be required, this book fosters effective application and operation of DDFAs through treatment of their principles of operation, selection, installation, and maintenance methods. This reference covers a broad range of issues concerning DDAs, including:

- An overview of deflagration and detonation prevention and protection practices
- An overview of combustion and flame propagation and how
