

Innehåll

## **Del 1 Fundamentals**

Introduction to Mechanics of Fluids

Conduction of Heat in Solids

Convection Heat Transfer

Radiation Heat Transfer

Thermochemistry

Chemical Equilibrium

Thermal Decomposition of Polymers

Structural Mechanics

Premixed Burning

Properties of Building Materials

Probability Concepts

Statistics

## **Del 2 Fire Dynamics**

Flame Height

Fire Plumes

Air Entrainment into Buoyant Jet Flames and Pool Fires

Ceiling Jet Flows

Vent Flows

Natural Convection Wall Flows

Effect of Combustion Conditions on Species Production

Toxicity Assessment of Combustion Products

Flammability Limits of Premixed and Diffusion Flames

Ignition of Liquid Fuels

Smoldering Combustion

Self-Heating and Spontaneous Combustion

Flaming Ignition of Solid Fuels

Surface Flame Spread

Smoke Production and Properties

## **Del 3 Hazard Calculations**

Burning Rates

Calorimetry

The Tone Calorimeter

Generation of Heat and Chemical Compounds in Fires

Compartment Fire Modelling

Estimating Temperatures in Compartment Fires

Zone Computer Fire Models for Enclosures

Using Field Modelling to  
Simulate Enclosure Fires  
Smoke and Heat Venting  
Compartment Fire-Generated Environment and Smoke Filling  
Fire Hazard Calculations for Large Open Hydrocarbon Fires  
Behavioral Response to Fire and Smoke  
Movement of People  
Emergency Movement  
Stochastic Models of Fire Growth  
Explosion Protection

#### **Del 4 Design Calculations**

Design of Detection Systems  
Hydraulics  
Automatic Sprinkler System Calculations  
Foam Agents and AFFF System Design Considerations  
Foam System Calculations  
Halon Design Calculations  
Halon Replacement Clean Agent Total Flooding Systems  
Fire Temperature-Time Relations  
Analytical Methods for Determining Fire Resistance of Steel Members  
Analytical Methods for Determining Fire Resistance of Concrete Members  
Analytical Methods for Determining Fire Resistance of Timber Members  
Smoke Control  
Smoke Management in Covered Malls and Atria

#### **Del 5 Fire Risk Analysis**

Computer Simulation for Fire Protection Engineering  
Fire Risk Ranking  
Extreme Value Theory  
Reliability  
Subjective Measurement in Fire Protection Engineering  
Engineering Economics  
Consequential/Indirect Loss  
Value of Human Life  
Utility Theory  
Product Fire Risk  
Building Fire Safety Risk Analysis  
An Introduction to Quantitative Risk Assessment in Chemical Process Industries

**Bilagor**

Conversion Factors

Property Data

Heat Transfer Data

Configuration Factors

Combustion Data