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Autore	Sadeghbeigi Reza
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Nota di contenuto	Front Cover; Fluid Catalytic Cracking Handbook; Copyright Page; Contents; Preface and Acknowledgments; About the Author; 1: Process Description; Feed Preheat; Feed Nozzles-Riser; Catalyst Separation; Stripping Section; Regenerator-Heat/Catalyst Recovery; Partial Versus Complete Combustion; Regenerated Catalyst Standpipe/Slide Valve; Regenerator Catalyst Separation; Flue Gas Heat and Pressure Recovery Schemes; Catalyst Handling Facilities; Main Fractionator; Gas Plant; Primary Absorber; Sponge Oil or Secondary Absorber; Stripper or De-ethanizer; Debutanizer; Gasoline Splitter Water Wash SystemTreating Facilities; Sour Gas Absorber; LPG Treating; Caustic Treating; Summary; References; 2: Process Control Instrumentation; Operating Variables; Process Control Instrumentation; Basic Supervisory Control; Regenerated and Spent Catalyst Slide Valve; Low Differential Pressure Override; Advanced Process Control; Advantages of Multivariable Modeling and Control; Disadvantages of Multivariable Modeling and Control; Summary; 3: FCC Feed Characterization; Hydrocarbon Classification; Paraffins; Olefins; Naphthenes; Aromatics; Feedstock Physical Properties; API Gravity DistillationAniline Point; Refractive Index; Bromine Number and Bromine Index; Viscosity; Conradson, Ramsbottom, Microcarbon, and

Heptane Insolubles; Impurities; Nitrogen; Sulfur; Metals; Nickel (Ni); Vanadium; Alkaline Earth Metals; Other Metals; Summary; Empirical Correlations; K-Factor; TOTAL; n-d-M Method; API Method; Benefits of Hydroprocessing; Summary; References; 4: FCC Catalysts; Catalyst Components; Zeolite; Zeolite Structure; Zeolite Chemistry; Zeolite Types; Zeolite Properties; Matrix; Filler and Binder; Catalyst Manufacturing Techniques; Conventional Zeolites (REY, REHY, and HY) USY ZeoliteBASF Process; Fresh Catalyst Properties; Particle Size Distribution; Surface Area (m²/g); Sodium (Na) (wt%); Rare Earth (wt%); E-Cat Analysis; Catalytic Properties; Conversion (activity); Coke Factor and Gas Factor; Physical Properties; Surface Area (m²/g); Apparent Bulk Density (g/cc); Pore Volume (cc/g); Pore Diameter (Å); Particle Size Distribution; Chemical Properties; Alumina (Al₂O₃); Sodium (Na); Nickel (Ni), Vanadium (V), Iron (Fe), and Copper (Cu); Carbon (C); Catalyst Management; Catalyst Evaluation; Summary; References; 5: Catalyst and Feed Additives
CO Combustion PromoterSO_x Additive; NO_x Additive; ZSM-5 Additive; Metal Passivation; Antimony; Bottoms-Cracking Additive; Summary; References; 6: Chemistry of FCC Reactions; Thermal Cracking; Catalytic Cracking; FCC Catalyst Development; Impact of Zeolites; Mechanism of Catalytic Cracking Reactions; Cracking Reactions; Isomerization Reactions; Hydrogen Transfer Reactions; Other Reactions; Thermodynamic Aspects; Summary; References; 7: Unit Monitoring and Control; Material Balance; Testing Methods; Advantages of Reaction Mix Sampling; Disadvantages of Reaction Mix Sampling
Recommended Procedures for Conducting a Test Run

Sommario/riassunto

This new and improved edition focuses on providing practical information and tools that engineers can use to maximize the profitability and reliability of their fluid catalytic cracking operations. The updated chapters and new content deliver expertise and know-how to an industry that faces significant cost cutting in capital expenditure and R&D, along with the retirement of technical specialists who are taking existing knowledge out of the industry with them. This FCC Handbook provides a valuable easy-to-understand resource for both experienced and inexperienced engineers and anyone else a
