Record Nr. UNINA9910366594203321 Autore Saha Sujoy Kumar Titolo Insert Devices and Integral Roughness in Heat Transfer Enhancement [[electronic resource] /] / by Sujoy Kumar Saha, Hrishiraj Ranjan, Madhu Sruthi Emani, Anand Kumar Bharti Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2020 3-030-20776-5 **ISBN** Edizione [1st ed. 2020.] 1 online resource (180 pages) Descrizione fisica SpringerBriefs in Thermal Engineering and Applied Science, , 2193-Collana 2530 Disciplina 621.4022 Soggetti Thermodynamics Heat engineering Heat transfer Mass transfer Fluid mechanics Materials science Engineering Thermodynamics, Heat and Mass Transfer **Engineering Fluid Dynamics** Characterization and Evaluation of Materials Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Chapter 1. Introduction -- Chapter 2. Twisted-Tape Insert -- Chapter Nota di contenuto 3. Displaced Enhancement Devices and Wire Coil Inserts -- Chapter 4. Swirl Generators, Extended Surface Insert and Tangential Injection Devices -- Chapter 5. Numerical Simulation of Integral Roughness, Laminar Flow in Tubes with Roughness -- Chapter 6. 2D Roughness, 3D roughness and Roughness Applications -- Chapter 7. Compound Techniques -- Chapter 8. Conclusions. This Brief describes heat transfer and pressure drop in heat transfer Sommario/riassunto enhancement by insert devices and integral roughness. The authors

> deal with twisted-tape insert laminar and turbulent flow in tubes and annuli in smooth tubes and rough tubes, segmented twisted-tape inserts, displaced enhancement devices, wire coil inserts, extended

surface inserts and tangential injection devices. The articles also address transverse and helical integral rib roughness, corrugated tube roughness, 3D and 2D roughness, rod bundles, outside roughness for cross flow, non-circular channels, Reynolds analogy and similarity law, numerical simulation and predictive models. The book is ideal for professionals and researchers working with thermal management in devices.