Record Nr. UNINA9910299937603321 Autore Oosthuizen Patrick H Titolo Natural Convective Heat Transfer from Horizontal and Near Horizontal Surfaces / / by Patrick H. Oosthuizen, Abdulrahim Y. Kalendar Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2018 **ISBN** 3-319-78750-0 Edizione [1st ed. 2018.] Descrizione fisica 1 online resource (131 pages) Collana SpringerBriefs in Thermal Engineering and Applied Science, , 2193-2530 Disciplina 621.4022 Soggetti Thermodynamics Heat engineering Heat transfer Mass transfer Fluid mechanics Engineering Thermodynamics, Heat and Mass Transfer **Engineering Fluid Dynamics** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Nota di contenuto Introduction -- Natural Convective Heat Transfer from Upward Facing Horizontal Isothermal Circular, Square, Two-Dimensional, and Rectangular Shaped Surfaces -- Natural Convective Heat Transfer from Upward Facing Horizontal Plane Surfaces of Complex Shape --Recessed and Protruding Heated Horizontal Surfaces -- Inclined and Adjacent Square Isothermal Heated Surfaces -- Natural Convective Heat Transfer from Horizontal Two-Sided Circular Plates -- Effect of a Parallel Adiabatic Covering Surface on the Natural Convective Heat Transfer from Horizontal Upward Facing Heated Surfaces. Sommario/riassunto This book deals with a natural convective heat transfer situation of significant practical importance that has not been adequately dealt with in existing texts or widely available review papers: natural convective heat transfer from horizontal and near horizontal surfaces. The aim is to provide the reader with an understanding of past studies of natural convective heat transfer from horizontal surfaces and a more detailed

review of contemporary studies. The more recent work deals with heat transfer from surfaces that have more complex shapes than previously considered, with heat transfer in situations in which laminar, transitional, and turbulent flow occur; in situations where the surface is inclined at a relatively small angle to the horizontal; and in situations where there is a covering surface above the heated surface. The authors further present methods for predicting heat transfer rates in all of the situations.