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## Cast Irons

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The demand for cast iron components, with weights ranging from a few kilograms to several tons, has increased significantly in recent years, both for technical and economic reasons. In fact, the lower cost compared to other alloys, and the good castability, which allow one to obtain near-net shape components in as-cast conditions, and the mechanical properties that can be obtained, are just some of the motivations that attract mechanical designers. However, correct design requires a good knowledge of the intrinsic correlation among alloy chemical composition, process parameters, microstructure (with casting defects) and mechanical properties. This book is aimed at collecting excellent and recent research experimental and theoretical works in this field. Technological (say, wear resistance and weldability) and mechanical properties (say, Young modulus, static and fatigue strength) of different grades of cast irons, ranging from solution strengthened ferritic ductile iron to compacted graphite iron as well as white and nodular cast irons, are correlated with the alloy chemical composition, process parameters and casting dimension.

