Given the growing change of market conditions worldwide production planning is facing new challenges. Different conditions in terms of operating resources, knowledge and quality ask for more flexible processes. As a consequence these new circumstances have to be taken increasingly into account in early phases of product design. To support the adjustment between product and production development the most significant key factors in design concerning production processes must be identified.

Therefore criteria are derived that describe the suitability of a product design to the production and the required quality – a measure to be introduced as product robustness. The methodical analysis of technical parameters of various product concepts, depending on their abstraction level and their interaction with each other, will support the generation of a guideline that indicates important effects certain design decisions have on the early production planning. Finally the measure product robustness can provide a basis for comparisons with measures like costs to support companies’ design decisions worldwide.