# Carrying capacity of a cylindrical combustion chamber of the liquid propellant engine

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*The article focuses on estimation of durability of the combustion chamber of a liquid rocket engine. Usually, when load bearing capacity is estimated, tension chart for ideal extensible material that excludes possibility of relative deformities is used. Such approach to estimate durability of liquid rocket engine combustion chamber cannot be employed because the chamber body consists of two attached layers, whose performance should be analyzed using data on deformation magnitude.*

*In this study, bearing load refers to estimation of durability relative to point of disequilibrium on the chart which relates tension to deformation magnitude measured on a log scale. Relation between circumferential and axial tensions inside the chamber determines position of disequilibrium points on tension diagrams of materials used in interior and exterior layers of the chamber. Load bearing capacity safety margin is related to tension magnitudes in disequilibrium points, and magnitude of acceptable tensions and deformations in combustion chamber walls.*

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