

Omnidirectional Impact Absorber

VTIP 14-104: “An Advanced Omnidirectional Impact Absorber”

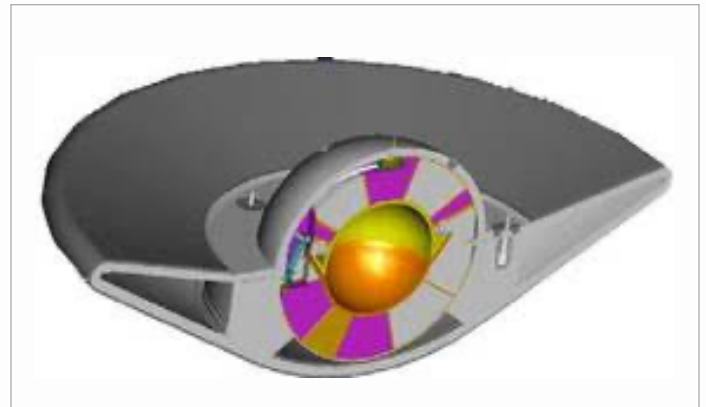
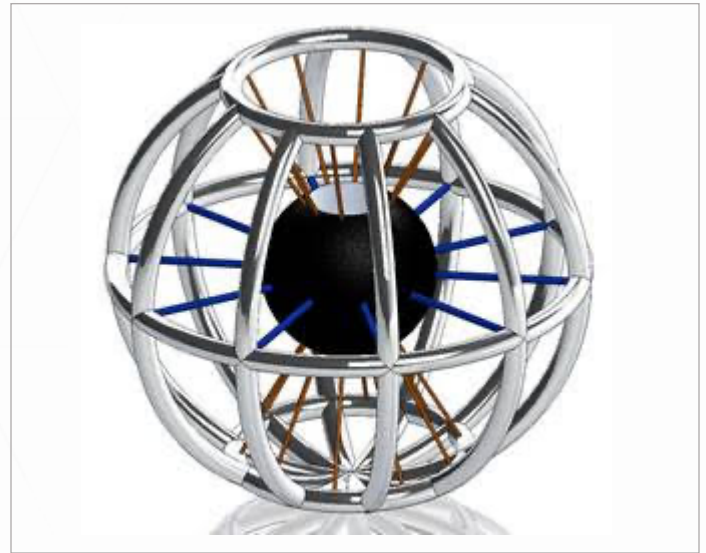
THE CHALLENGE

Nearly all existing energy absorbers use compression and crush as the primary mechanism for kinetic energy absorption and payload protection. For omnidirectional protection, existing energy absorbers are intrinsically inefficient and difficult to tailor to specific protection requirements. Stroke efficiency, initial compression stiffness, and crush force efficiency are key areas of improvement to existing designs.

OUR SOLUTION

This novel impact absorber is well suited for high performance light weight applications that require omnidirectional impact and/or thermal protection. It can also be utilized in unidirectional applications with equally high impact performance. In comparison to existing technologies this impact absorber offers improved performance and design flexibility for greater stroke efficiency, better initial compression stiffness, and greater crush force efficiency.

Additionally, this impact absorber maintains its high performance for spherical applications and its performance can be quickly and easily tailored to different impact and thermal protection requirements. It can also be used to replace crushable impact absorbers in other applications, such as car seats, motorcycle helmets, and more.



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