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Study on Dynamic Energy Absorption Ability of Closed-cell Si-Al Foam Metals Considering Geometry Size

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Summary

Geometry size has a great influence on energy absorption ability of closed-cell foam metals. Study on energy absorption ability of closed-cell Si-Al foam metals considering geometry size by impact experiment method. The results show that the strain and absorbing energy value are decreasing with the geometry size increasing, and also lead to the hole wall rupture or whole instability. The best height-width ratio for cube and cylinder are 1.0˜1.5 and 1.0˜2.0, respectively. With the increasing of material diameter, the compressive strength increasing quickly, but the strain reduces. It is clearly that height-width ratio 1.0 is better for cube and cylinder.