



PennEngineering

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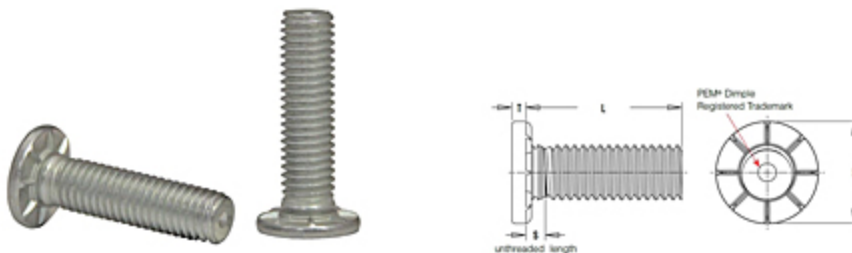
Website: www.pemnet.com

Part # HFLH-032-20ZI, Type HFLH™ Hard Panel Studs - Unified

- Installs into thinner, harder, high strength steel materials (high strength steel sheets up to 700 MPa maximum ultimate tensile)
- Allows overall weight reduction for all vehicles
- Provides lower installed cost

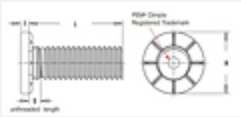
Compare to other thin sheet fastening devices:

- Addresses environmental concerns
- Lighter weight
- Close to edge of panel mounting
- No embossing required
- Hardened stud material provides stronger thread strength
- Can be installed automatically using press or in-die technology



Specifications

Thread Size	.190-32 (#10-32)
Thread Code	032
Length Code	20

Min. Sheet Thickness	.040 in
Hole Size in Sheet + .005 - .000	.190 in
L - Length ± .015	1.25 in
	
H ± .01	.357 in
S Max.¹	.102 in
T Max.	.048 in
Max. Hole in Attached Parts	.280 in
Min. Dist. Hole C/L to Edge	.360 in
Tensile strength	120 ksi
For Use in Sheet Hardness²	HRB 96 / HB 216 or Less
Thread Specification	External, ASME B1.13M, 6g B1.1, 2A / ASME
Fastener Material	Heat-Treated Alloy Steel
Standard Finish	Zinc plated per SC1 (5µm), Type ASTM B633, III, colorless
CAD Supplier	PennEngineering® (PEM®)

¹ Threads are gageable to within 2 pitches of the "S" Max. dimension. A class 3B/5H maximum material commercial nut shall pass up to the "S" Max. dimension.

² HRB - Hardness Rockwell "B" Scale. HB - Hardness Brinell