



PennEngineering

Corporate Headquarters – Danboro, PA

5190 Old Easton Rd.

Danboro, PA 18916

Phone: 215-766-8853

Toll-Free Phone: 1-800-237-4736 (U.S. only)

Email: info@pemnet.com

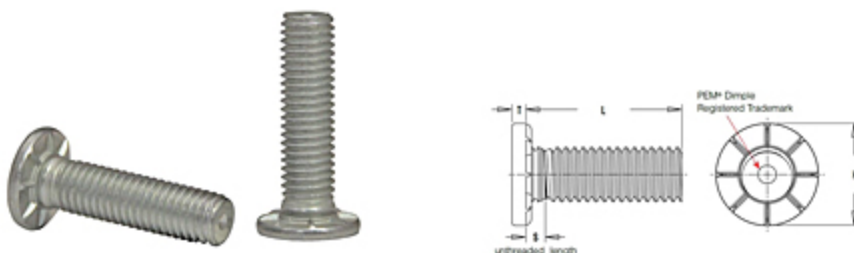
Website: www.pemnet.com

Part # HFLH-M5-20ZI, Type HFLH™ Hard Panel Studs - Metric

- 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

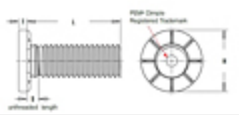
Compare to other thin sheet fastening devices:

- 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 x Pitch	M5 x 0.8
Thread Code	M5
Length Code	20
Min. Sheet Thickness	1 mm

Hole Size in Sheet + 0.13	5 mm	
L - Length ± 0.4	20 mm	
H ± 0.25	9.6 mm	
S Max.¹	2.6 mm	
T Max.	1.35 mm	
Max. Hole in Attached Parts	7.3 mm	
Min. Dist. Hole C/L to Edge	10 mm	
Tensile strength	900 MPa	
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 ASTM B633, SC1 (5µm), Type 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