

Steel Rod - 50 LBS over 27/16" Diameter of 2.237 sq. in. surface area

1" 8lb Nominal	With Mat:
11/32" = 22/64"	9/92" = 18/64"
23/64" = 23/64"	19/64" = 19/64"
23/64" = 23/64"	17/64" = 17/64"
25/64" = 25/64"	5/16" = 20/64"
13/32" = 26/64"	21/64" = 21/64"

Steel Rod - 50 LBS over 27/16" Diameter on a 3" x 4" Block for 12 sq. in. surface area

Using a 50 lb steel rod of 27/16" diameter and 2.237 sq. in. of surface area gave a more measurable compression differences to work with; however, on 2" tests and 100 lbs tests on 1", a block 3"x4" for a total surface of 12 square inches had to be used, as the 2.237 square inch surface of the end of the rod ripped through the mat and destroyed and broke down the core material. Increasing the square inches of surface gave a more accurate compressive strength test.

2" 8 lb. Nominal	With Mat:
3/16" = 3/16"	3/16" = 12/64"
1/4" = 4/16"	1/8" = 8/64"
5/16" = 5/16"	7/32" = 14/64"
5/16" = 5/16"	1/8" = 8/64"
1/4" = 4/15"	5/32" = 10/64"
Average 4/16" or 1/4"	Average 10/64" or 5/32"

50 LBS on 12 sq. in. achieved 12.5% compression on 2" and 10% compression on 1" without mat. These tables show LBS of compression necessary to achieve 2.5" compression with mat.

1" 8 lb Nominal	2" 8 lb Nominal
90 lbs	90.5 lbs
100 lbs	105 lbs
100 lbs	90 lbs
105 lbs	105 lbs
90 lbs	100 lbs

Conclusion: The fiberglass mat increases the compressive strength over that of the mineral wool board alone by 98% in the 1" test and 96% in the 2" test.