

Figure Captions

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Figure 8 Comparison of Deflection, Stresses, and Strain of the HVI tested GSIP

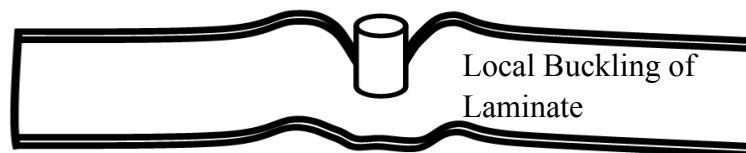


Figure 1 Damage Mechanism of HVI of GSIPs

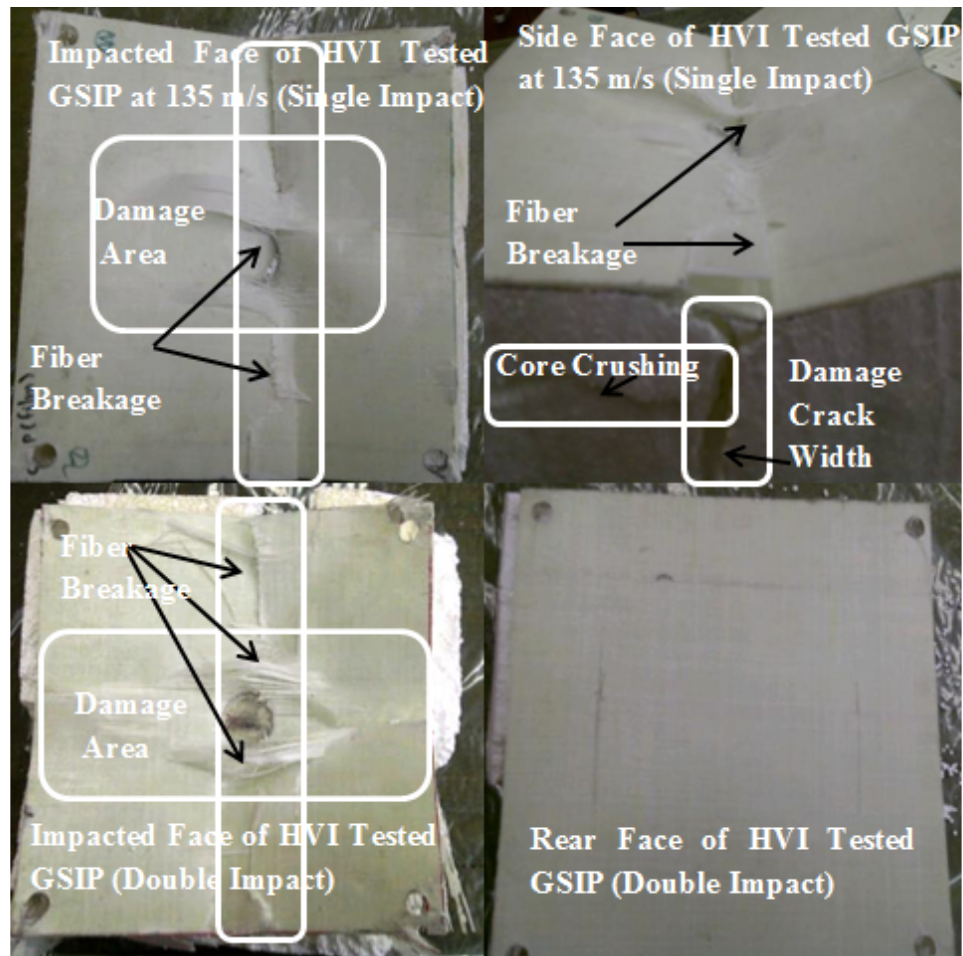


Figure 2 High Velocity Impacted Specimen

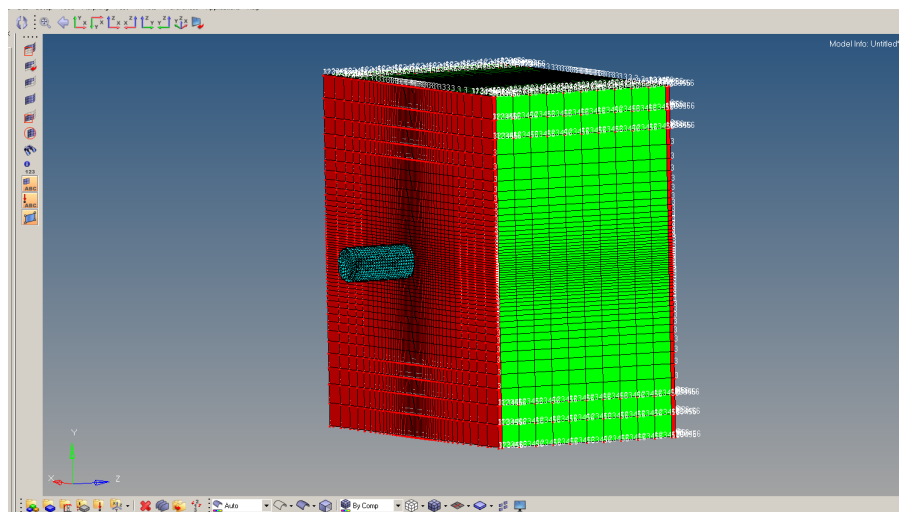
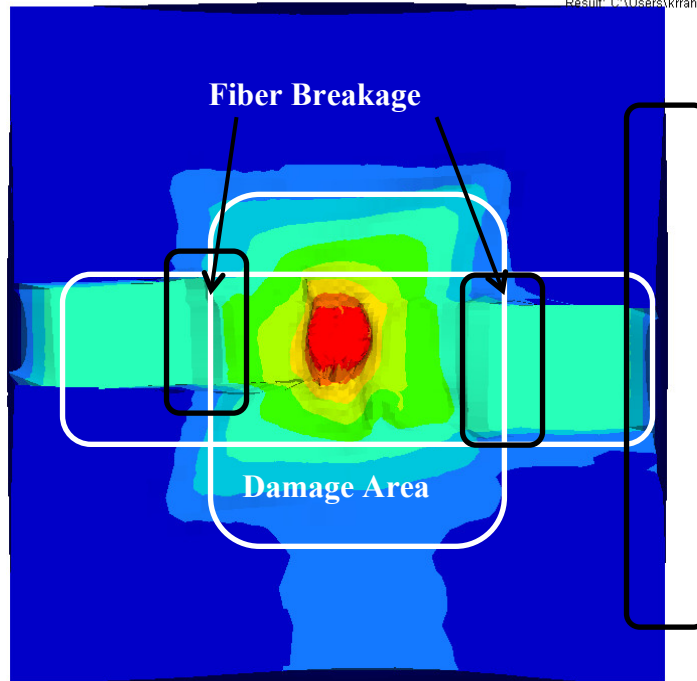
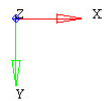


Figure 3 HVI LS- DYNA Modeling Setup using HYPERMESH

Contour Plot
Displacement(Mag)
Analysis system
4.100E+01
3.644E+01
3.189E+01
2.733E+01
2.278E+01
1.822E+01
1.367E+01
9.111E+00
4.556E+00
0.000E+00
No result
Max = 4.100E+01
Node 10058
Min = 0.000E+00
Node 660

Model info: final_project
Result: C:\Users\krrahu\Desktop\HVI Paper\G_PP\135\d3plot
Loadcase 1 : Time = 0.899954
Frame 10



Core Crushing

Figure 4 HVI tested GSIP specimen using LS- DYNA under the impact velocity of 135 m/s

Contour Plot
Displacement(Mag)
Analysis system
4.206E+01
3.738E+01
3.271E+01
2.804E+01
2.336E+01
1.869E+01
1.402E+01
9.346E+00
4.673E+00
0.000E+00
No result
Max = 4.206E+01
Node 10058
Min = 0.000E+00
Node 1

Model info: final_project
Result: C:\Users\krrahu\Desktop\HVI Paper\G_PP\135\d3plot
Loadcase 1 : Time = 2.599991
Frame 27

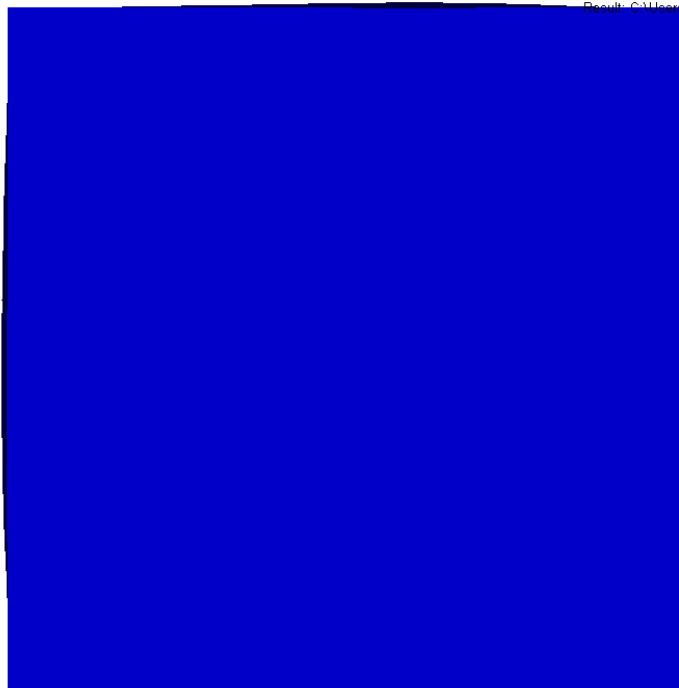
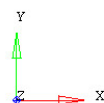


Figure 5 Rear Face of HVI tested GSIP specimen under the impact velocity of 135 m/s

Contour Plot
Displacement(Mag)
Analysis system
6.450E+01
5.733E+01
5.017E+01
4.300E+01
3.583E+01
2.867E+01
2.150E+01
1.433E+01
7.167E+00
0.000E+00
No result
Max = 6.450E+01
Node 949
Min = 0.000E+00
Node 660

Model info: final_project
Result: C:\Users\krrahu\Desktop\HVI Paper\G_PP\270\d3plot
Loadcase 1 : Time = 0.499976
Frame 6

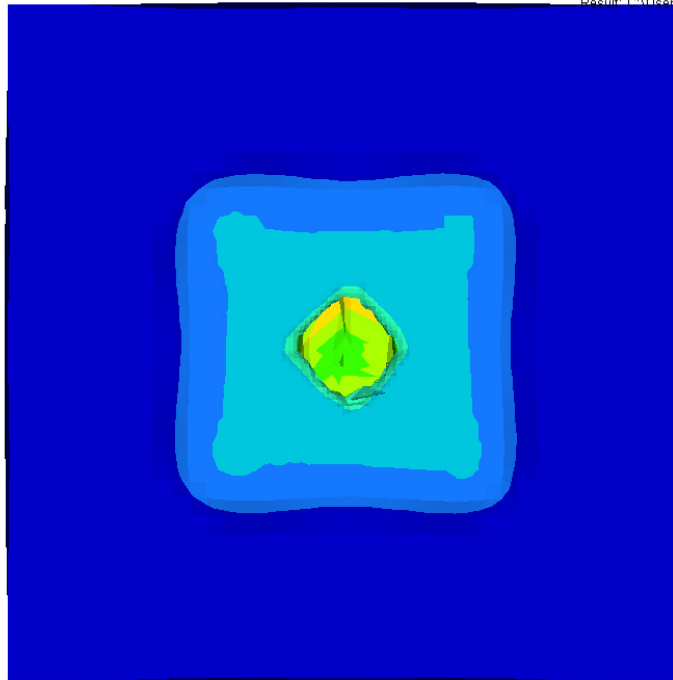
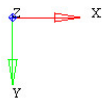


Figure 6 HVI tested GSIP specimen under the impact velocity of 270 m/s

Contour Plot
Displacement(Mag)
Analysis system
6.450E+01
5.733E+01
5.017E+01
4.300E+01
3.583E+01
2.867E+01
2.150E+01
1.433E+01
7.167E+00
0.000E+00
No result
Max = 6.450E+01
Node 949
Min = 0.000E+00
Node 660

Model info: final_project
Result: C:\Users\krrahu\Desktop\HVI Paper\G_PP\270\d3plot
Loadcase 1 : Time = 1.299967
Frame 14

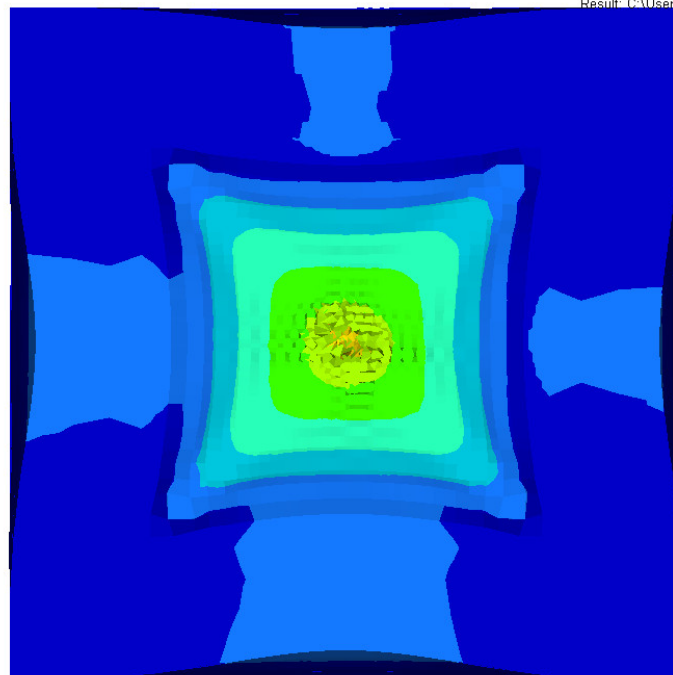
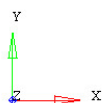


Figure 7 Rear face of HVI tested GSIP specimen under the impact velocity of 270 m/s

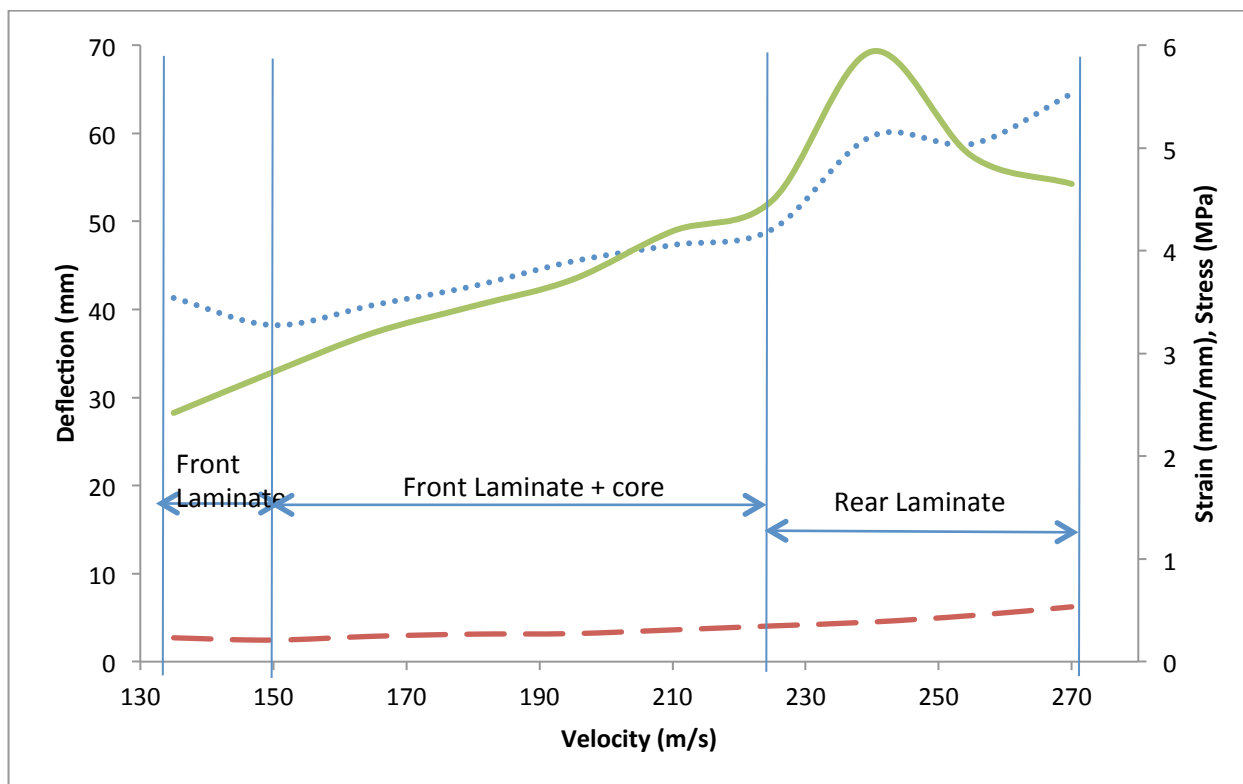


Figure 8 Comparison of Deflection, Stresses, and Strain of the HVI tested GSIP specimen under variable impact velocity