

PLASTIC HOOP STRAIN WITH 0.6KG TNT LOADING

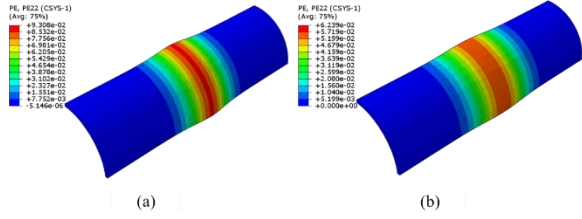


Figure S.1 Plastic hoop strain on API-5L-X42 material 0.6 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

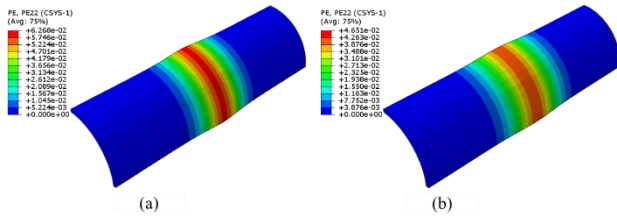


Figure S.2 Plastic hoop strain on API-5L-X65 material 0.6 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

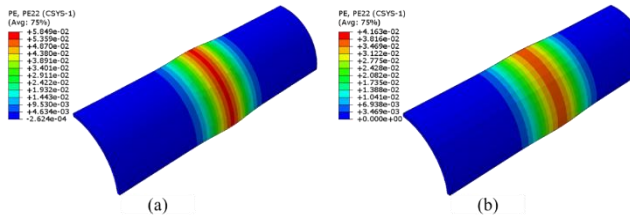


Figure S.3 Plastic hoop strain on Cu-Ni 70/30 material 0.6 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

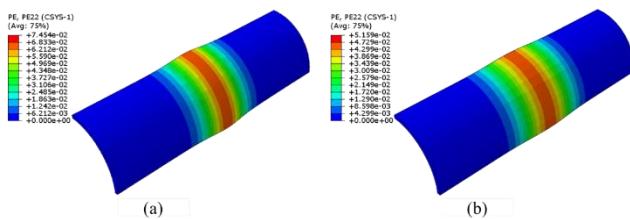


Figure S.4 Plastic hoop strain on Cu-Ni 90/10 material 0.6 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

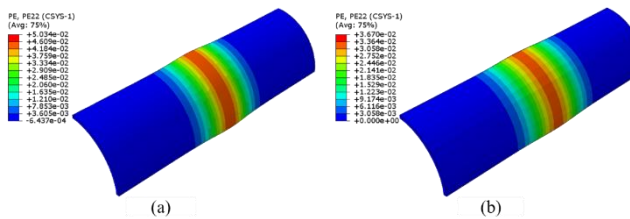


Figure S.5 Plastic hoop strain on HY-80 material 0.6 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

PLASTIC HOOP STRAIN WITH 0.8 KG TNT LOADING

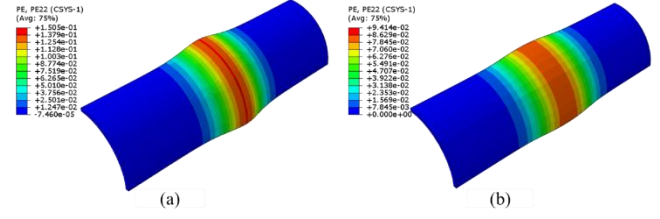


Figure S.6 Plastic hoop strain on API-5L-X42 material 0.8 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

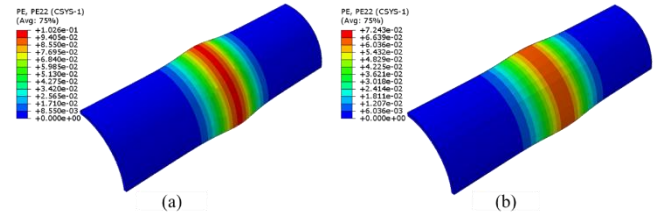


Figure S.7 Plastic hoop strain on API-5L-X65 material 0.8 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

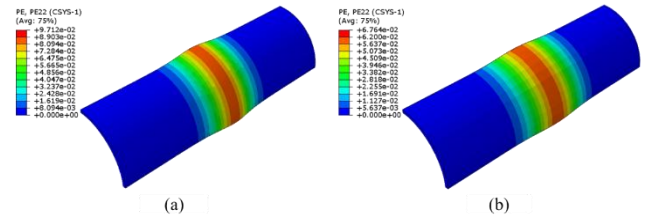


Figure S.8 Plastic hoop strain on Cu-Ni 70/30 material 0.8 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

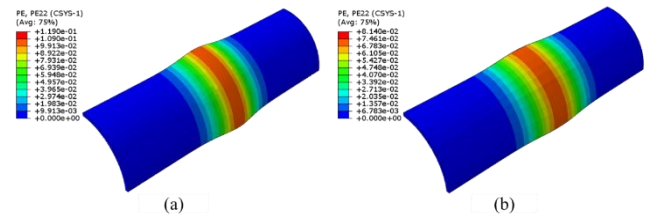


Figure S.9 Plastic hoop strain on Cu-Ni 90/10 material 0.8 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

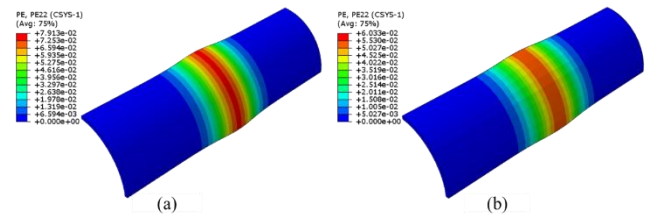


Figure S.10 Plastic hoop strain on HY-80 material 0.8 kg TNT loading: (a) plastic hoop strain on 0.0025 m mesh, and (b) plastic hoop strain on 0.025 m mesh.

DISPLACEMENT WITH 0.6KG TNT LOADING

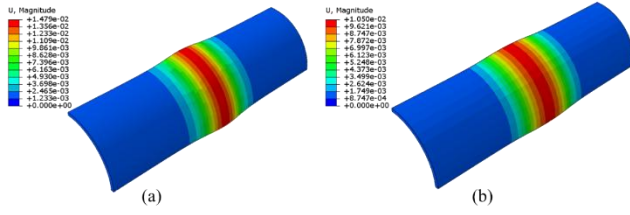


Figure S.11 Displacement of API-5L-X42 material with 0.6 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

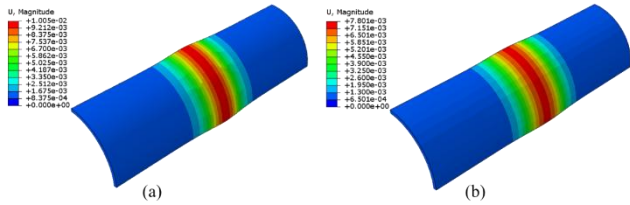


Figure S.12 Displacement of API-5L-X65 material with 0.6 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

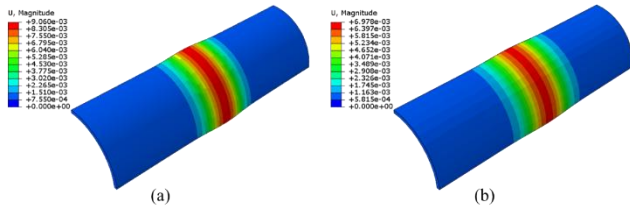


Figure S.13 Displacement of Cu-Ni 70/30 material with 0.6 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

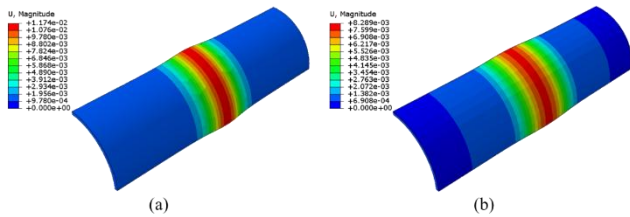


Figure S.14 Displacement of Cu-Ni 90/10 material with 0.6 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

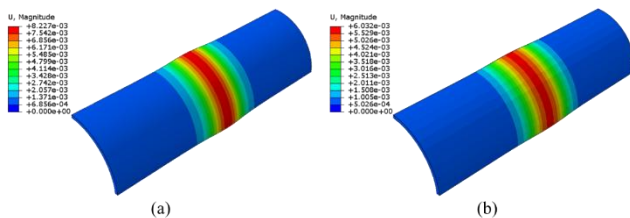


Figure S.15 Displacement of HY-80 material with 0.6 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

DISPLACEMENT WITH 0.8KG TNT LOADING

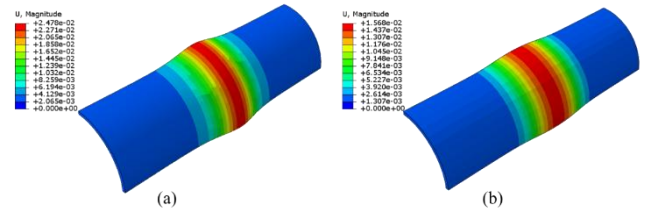


Figure S.16 Displacement of API-5L-X42 material with 0.8 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

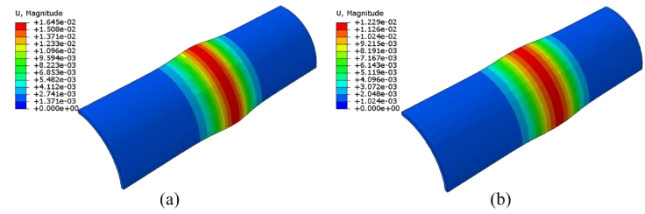


Figure S.17 Displacement of API-5L-X65 material with 0.8 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

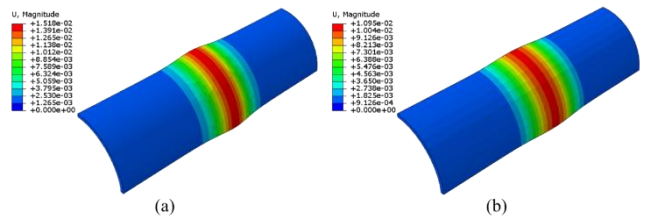


Figure S.18 Displacement of Cu-Ni 70/30 material with 0.8 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

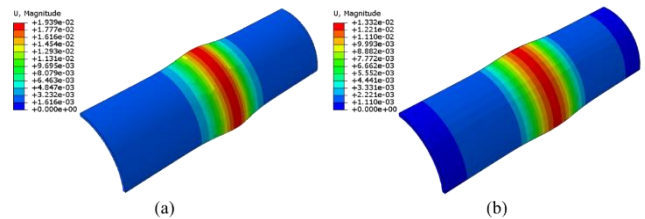


Figure S.19 Displacement of Cu-Ni 90/10 material with 0.8 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

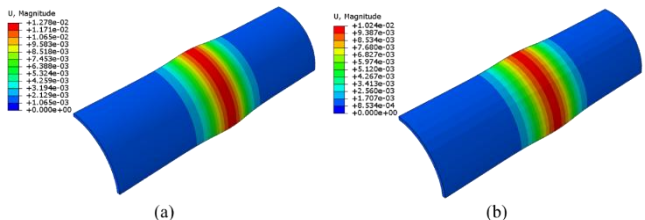


Figure S.20 Displacement of HY-80 material with 0.8 kg TNT loading: (a) displacement at mesh 0.0025 m, and (b) displacement at mesh 0.025 m.

STRESS CONTOUR AT 0.0025 M MESHING

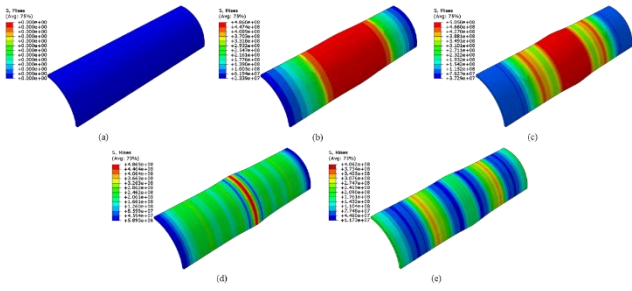


Figure S.21 Von Mises stress contours of 0.0025 m meshing on API-5L-X65 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

STRESS CONTOUR AT 0.0125 M MESHING

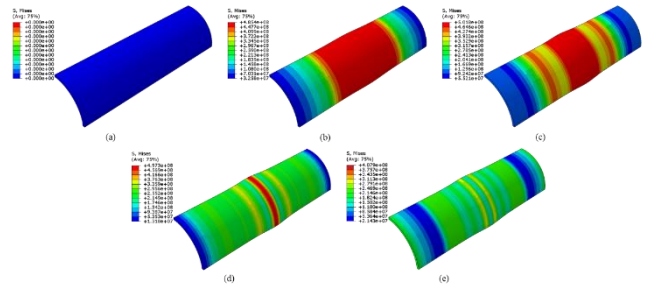


Figure S.26 Von Mises stress contours of 0.0125 m meshing on API-5L-X65 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

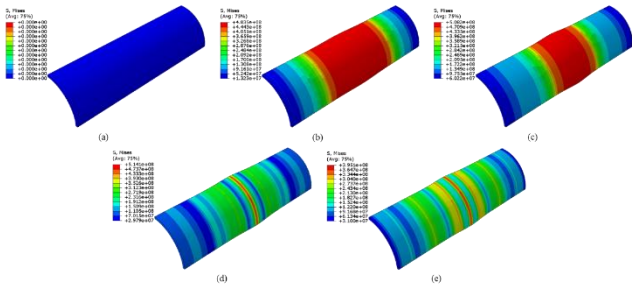


Figure S.22 Von Mises stress contours of 0.0025 m meshing on Cu-Ni 70/30 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

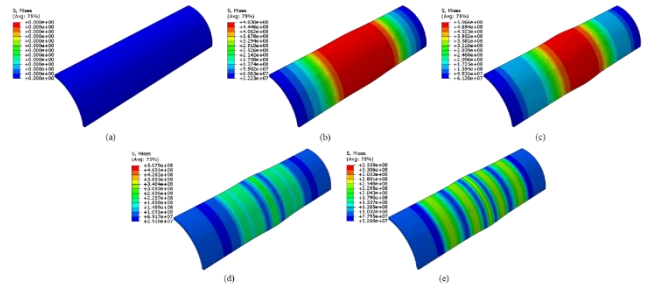


Figure S.27 Von Mises stress contours of 0.0125 m meshing on Cu-Ni 70/30 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

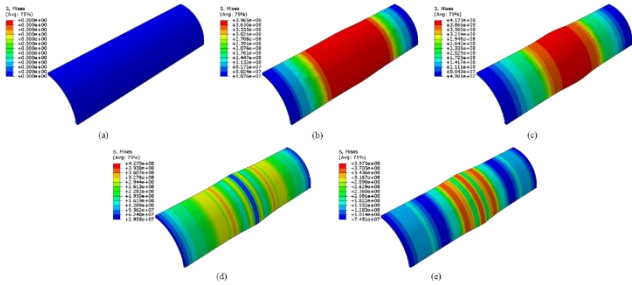


Figure S.23 Von Mises stress contours of 0.0025 m meshing on Cu-Ni 90/10 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

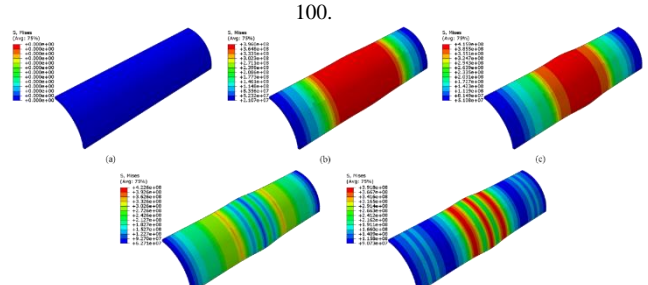


Figure S.28 Von Mises stress contours of 0.0125 m meshing on Cu-Ni 90/10 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

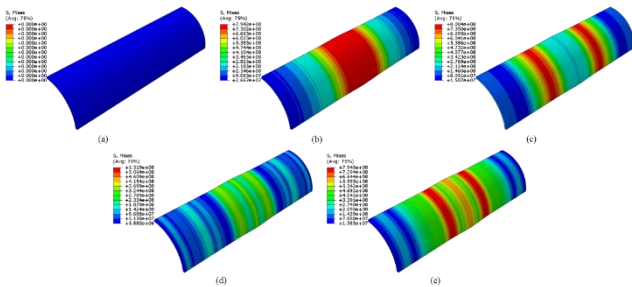


Figure S.24 Von Mises stress contours of 0.0025 m meshing on HY-100 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

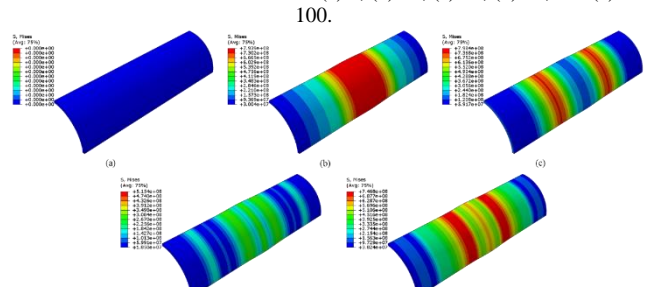


Figure S.29 Von Mises stress contours of 0.0125 m meshing on HY-100 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

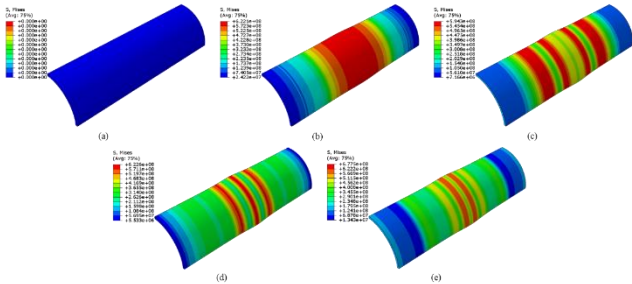


Figure S.25 Von Mises stress contours of 0.0025 m meshing on HY-80 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

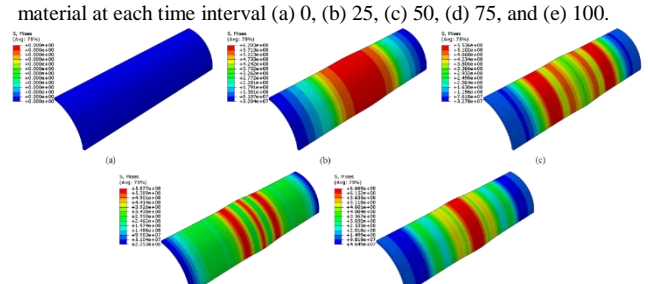


Figure S.30 Von Mises stress contours of 0.0125 m meshing on HY-80 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

STRESS CONTOUR AT 0.0250 M MESHING

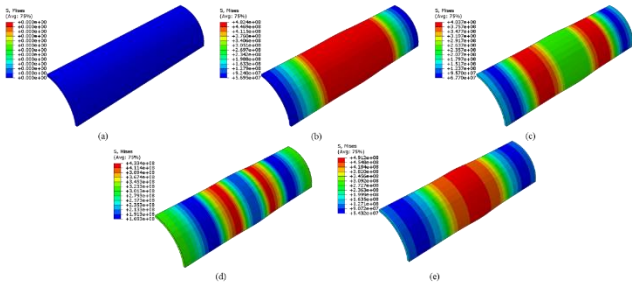


Figure S.31 Von Mises stress contours of 0.0250 m meshing on API-5L-X65 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

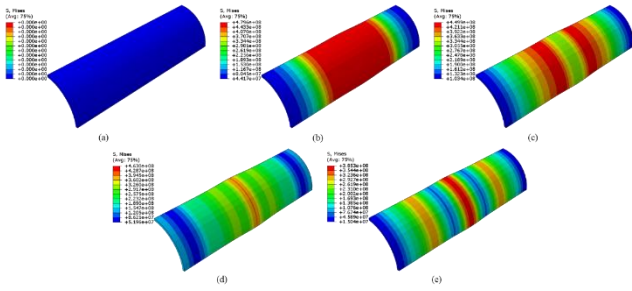


Figure S.32 Von Mises stress contours of 0.0250 m meshing on Cu-Ni 70/30 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

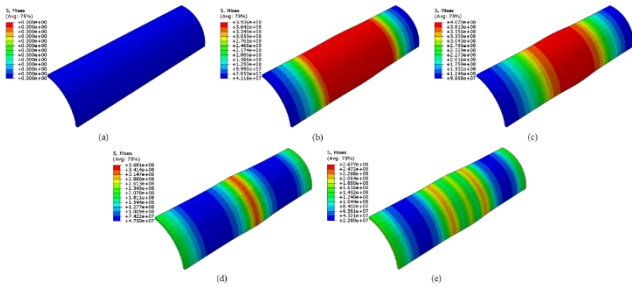


Figure S.33 Von Mises stress contours of 0.0250 m meshing on Cu-Ni 90/10 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

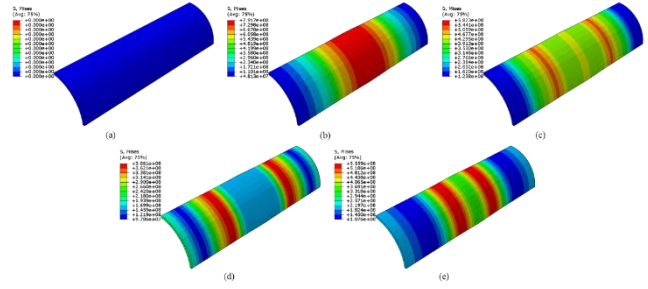


Figure S.34 Von Mises stress contours of 0.0250 m meshing on HY-100 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.

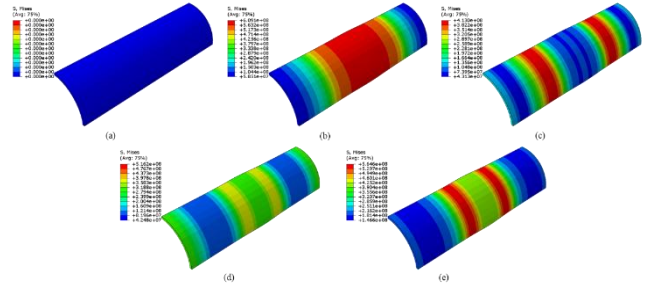


Figure S.35 Von Mises stress contours of 0.0250 m meshing on HY-80 material at each time interval (a) 0, (b) 25, (c) 50, (d) 75, and (e) 100.