2.5 STEEL COMPANY PROVIDED STRESS STRAIN CURVES

The relationship between the stress and strain that a material displays is known as a stress-strain curve. Stress-strain curves might be needed in the inelastic finite element analysis. It is unique for each kind of steel and is found by recording the amount of deformation (strain) at distinct intervals of tensile or compressive loading as explained in Section 23.12. The best source of the stress-strain curves are from the steel manufacturers.

Figure 2.5-1 shows the sample stress strain curves for a HR 80 ksi, DP 590 HR, and a HR 50 ksi. Figure 2.5-2 shows the sample stress strain curves for a BH210 and a BH180EG. Figure 2.5-3 shows the sample stress strain curves for a DP600/590 HDGA and a Galvanized 50 ksi. Figure 2.5-4 shows the sample stress strain curve for a DDS-CR.

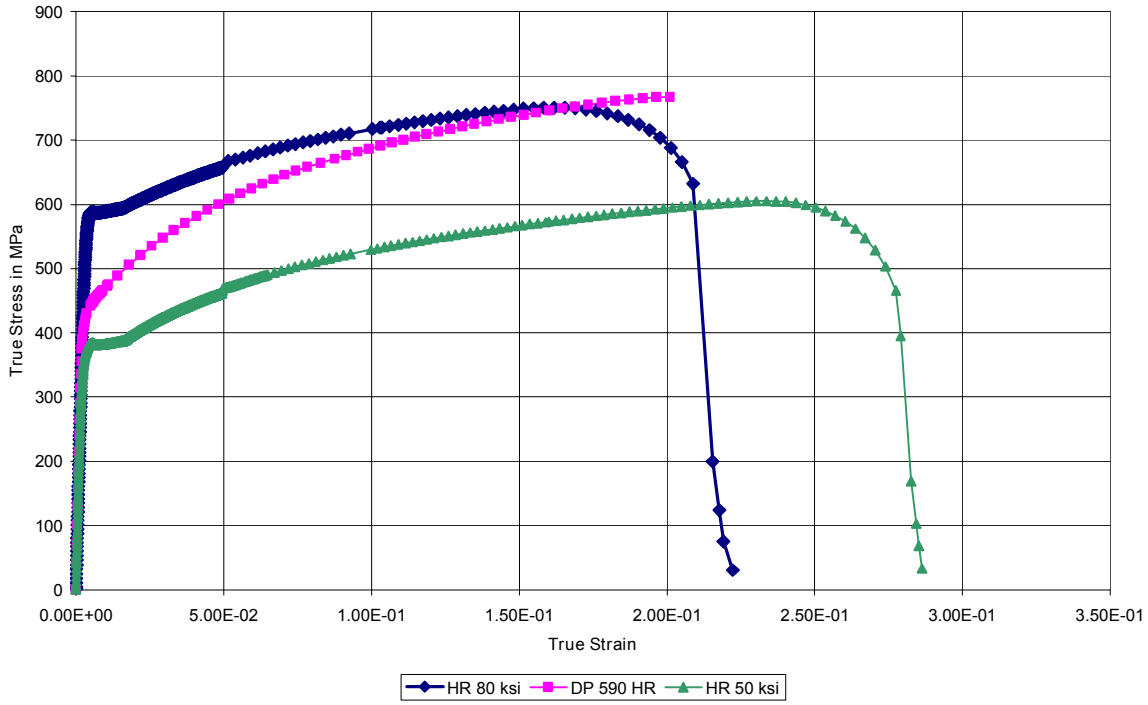

Figure 2.5-1 Sample stress-strain curves for a HR 80ksi, DP 590 HR, and a HR 50ksi

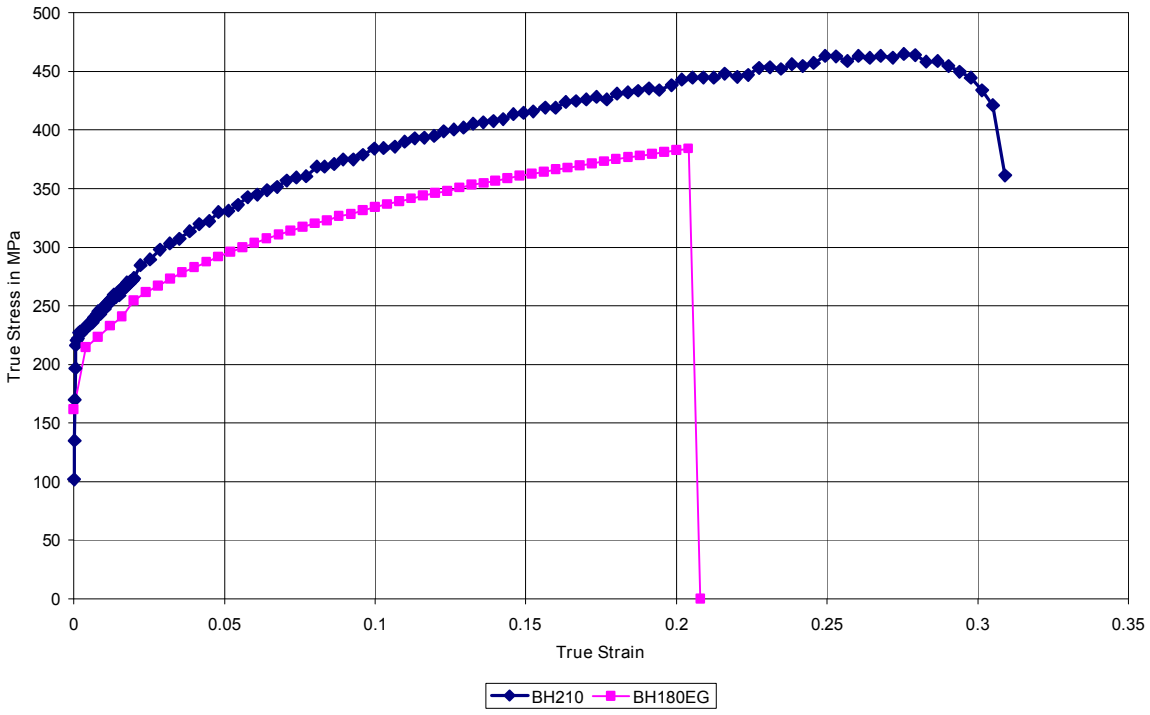

Figure 2.5-2 Sample stress-strain curves for a BH210 and a BH180EG

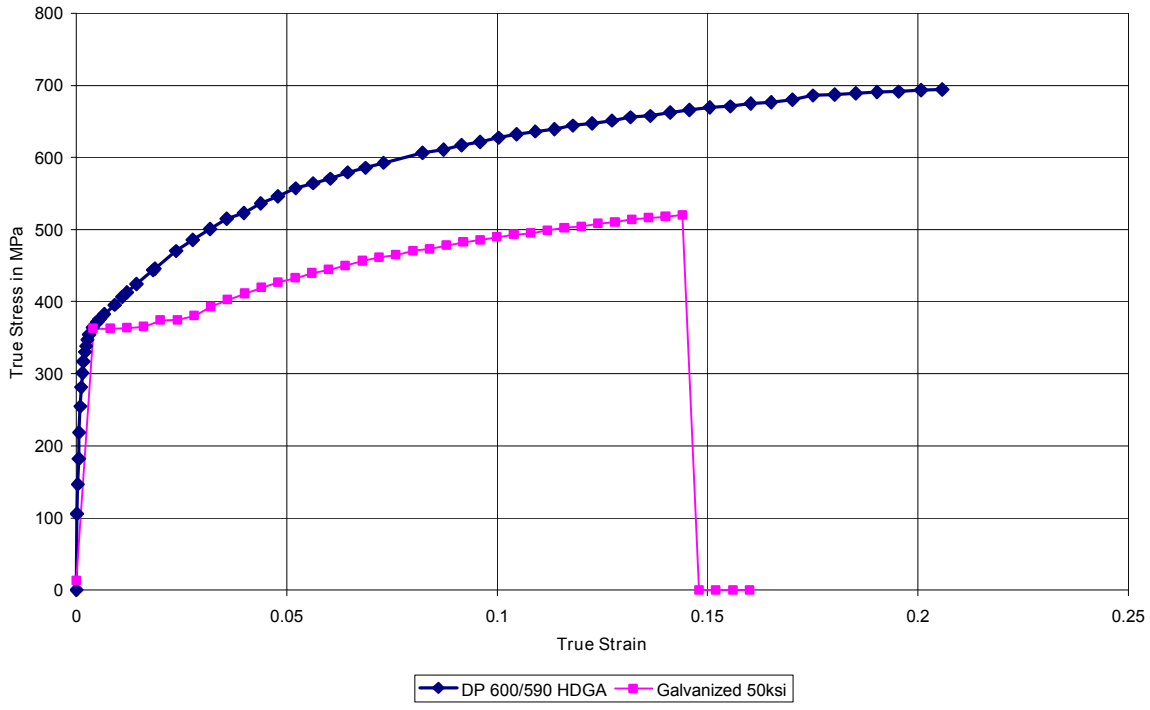

Figure 2.5-3 Sample stress-strain curves for a DP600/590 HDGA and a Galvanized 50 ksi

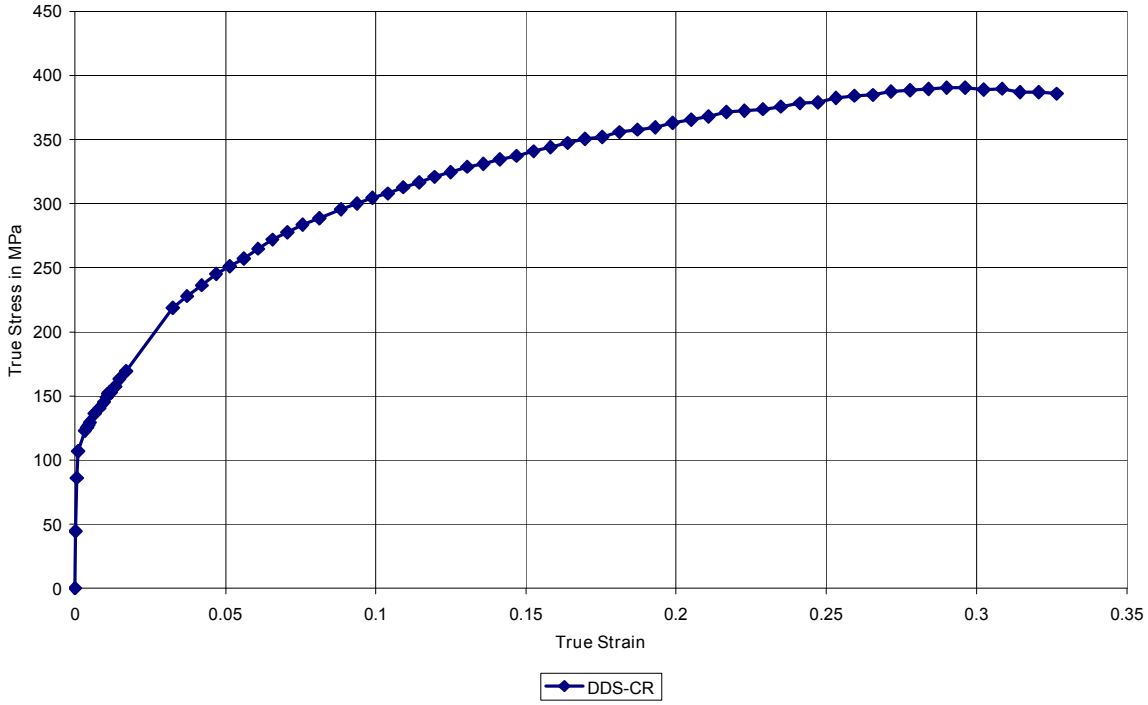

Figure 2.5-4 Sample stress-strain curves for a DDS-CR