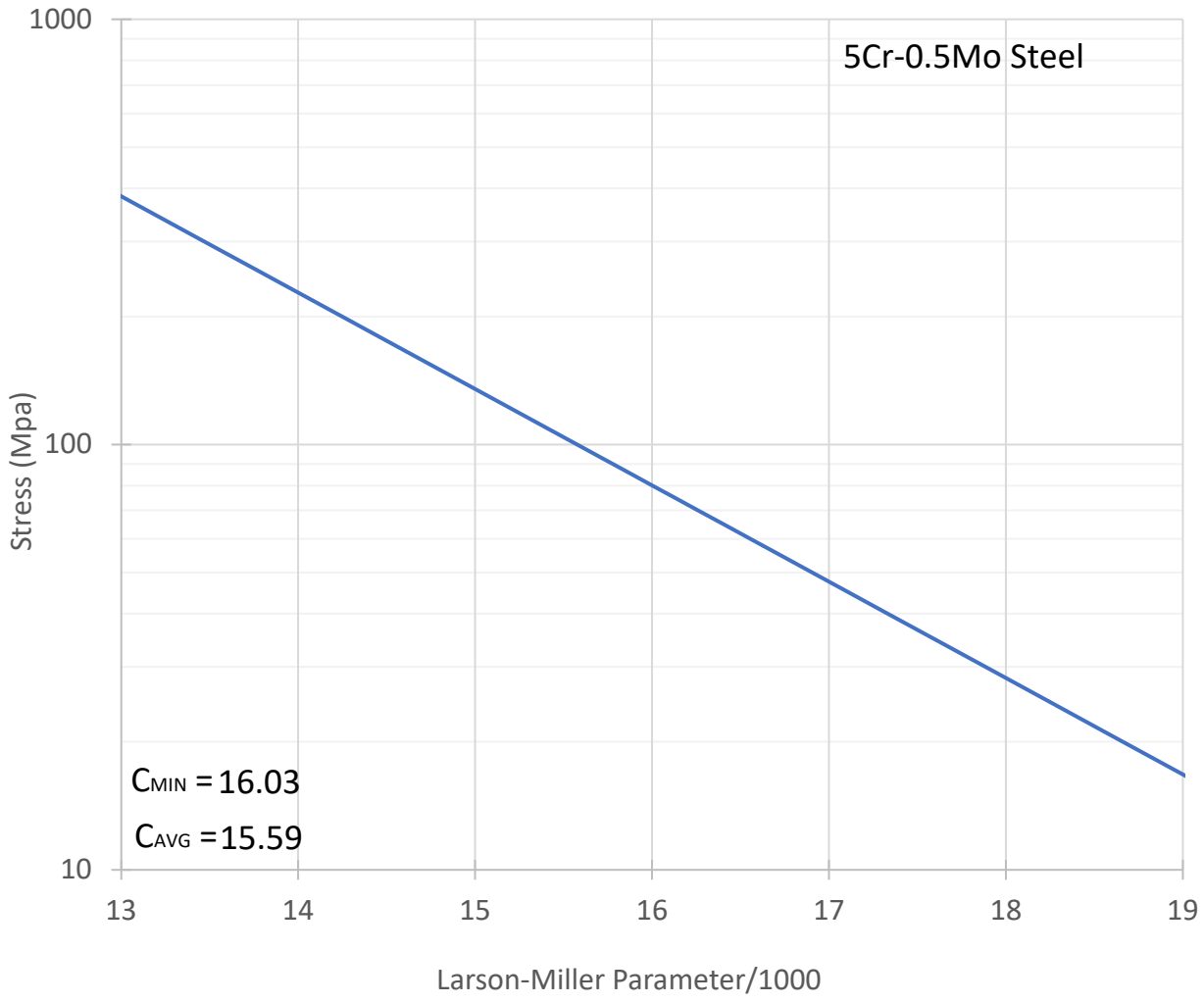


**Figure 15.8-3M – Design Curve Showing the Larson-Miller Parameter as a Function of Stress in Metric Units. The Minimum Larson-Miller Constant ($C_{min}$) is used to Calculate Minimum Time-Dependent Properties and the Average Larson-Miller Constant ($C_{avg}$) is used to Calculate Average Time-Dependent Properties: 5Cr-0.5Mo**

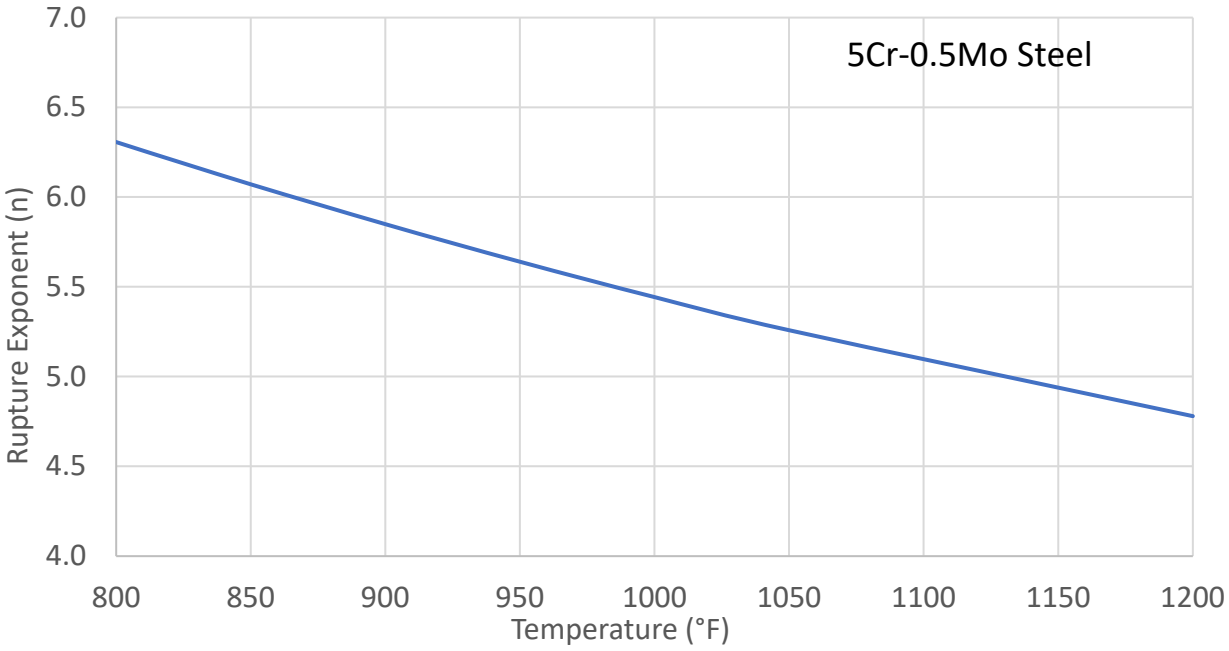


**Figure 15.8-4 – Rupture Exponent as a Function of Temperature: 5Cr-0.5Mo**

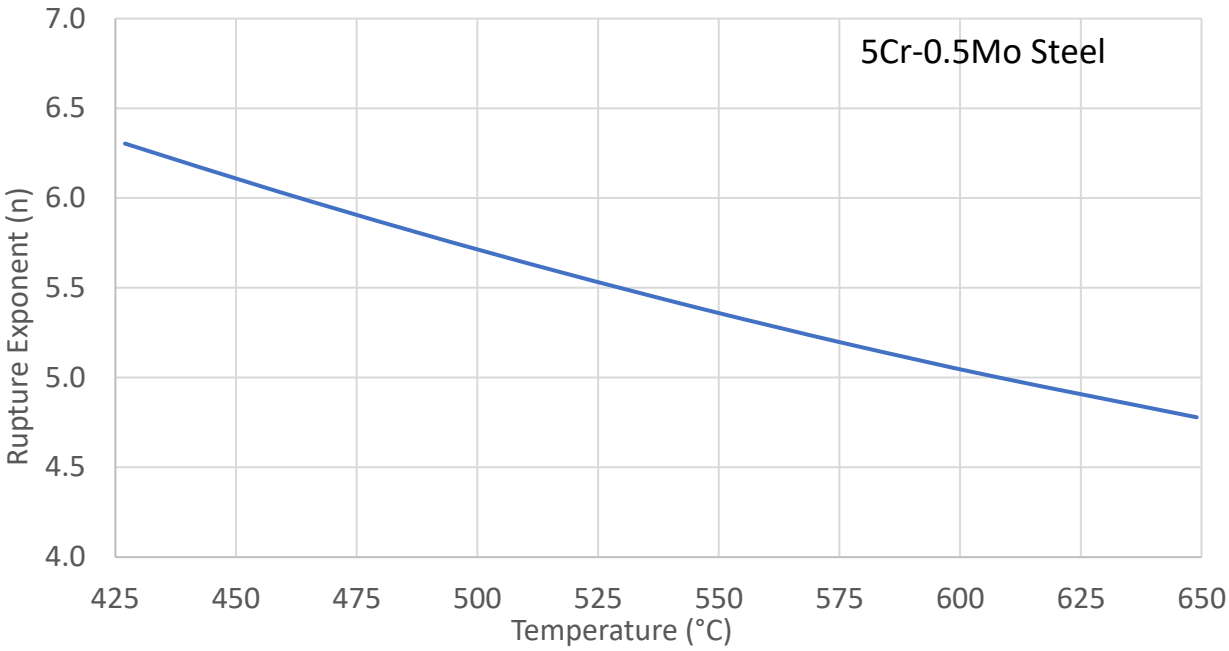


**Figure 15.8-4M – Rupture Exponent as a Function of Temperature: 5Cr-0.5Mo**

### 15.9 5Cr-0.5Mo-Si

There are no new data sources for 5Cr-0.5Mo-Si. Therefore, the material parameters developed for 5Cr-0.5Mo are used to develop the following plots:

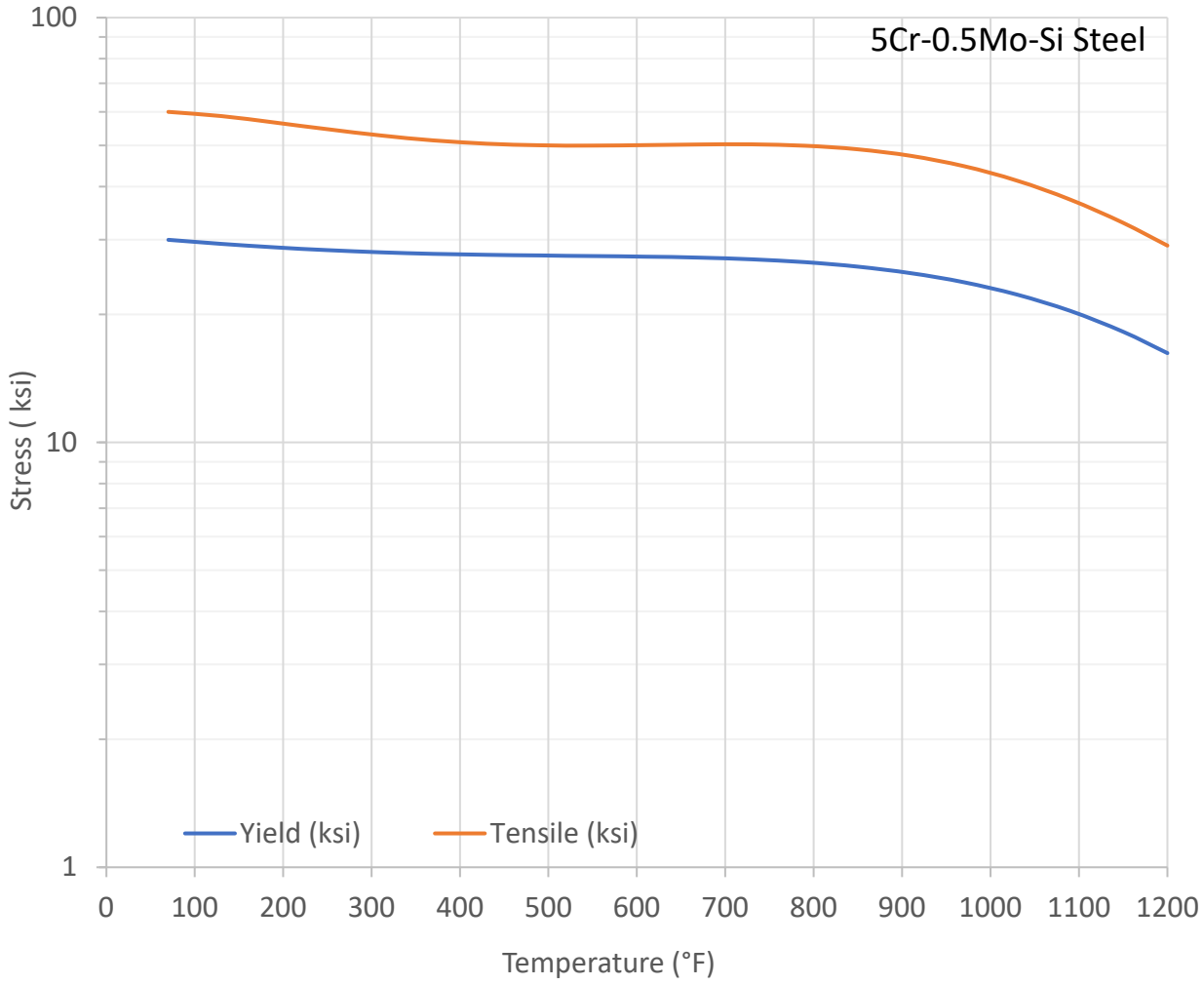


**Figure 15.9-1 – Yield and Ultimate Tensile Strength as a Function of Temperature in US Customary Units: 5Cr-0.5Mo-Si**

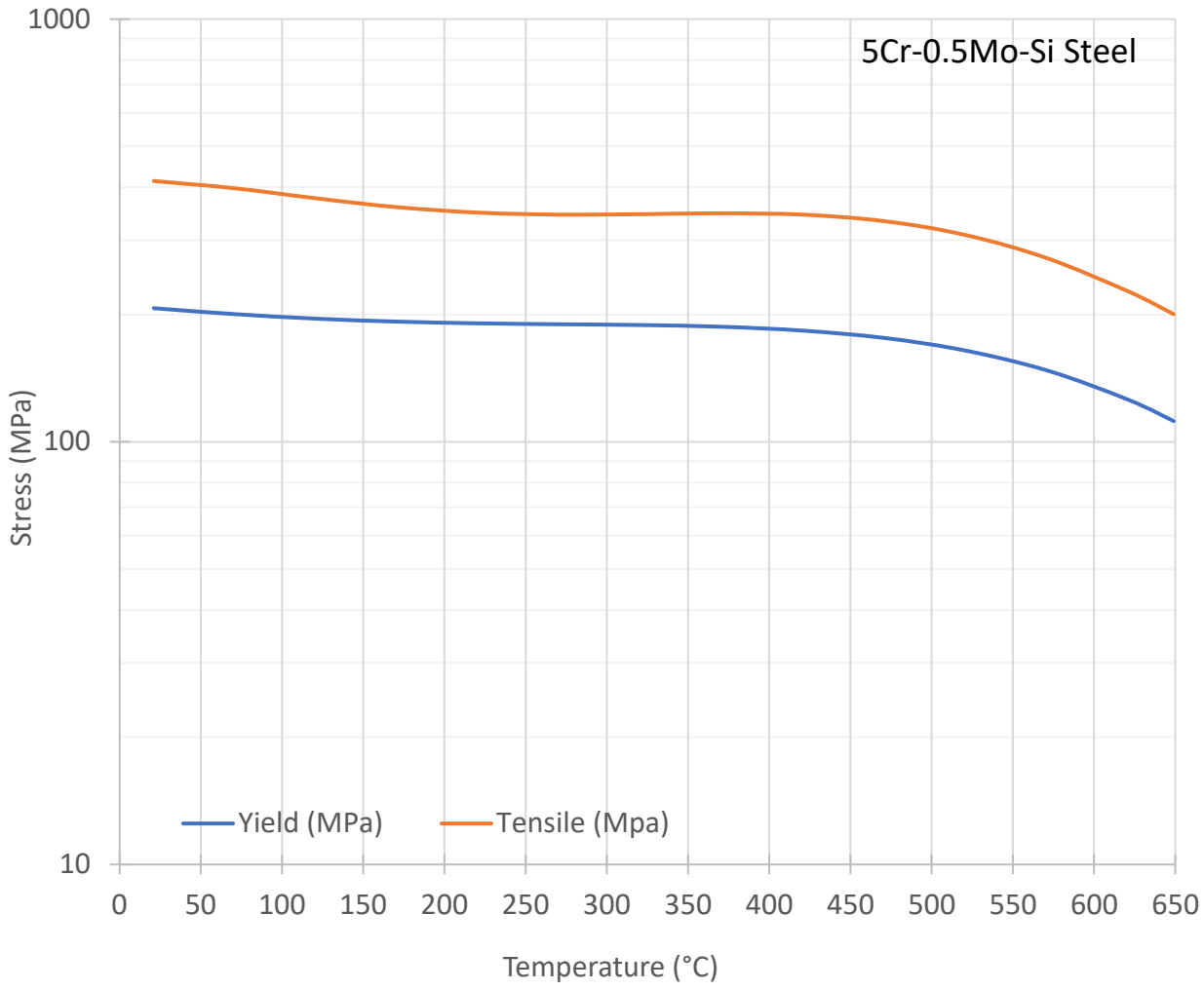


**Figure 15.9-1M – Yield and Ultimate Tensile Strength as a Function of Temperature in Metric Units: 5Cr-0.5Mo-Si**

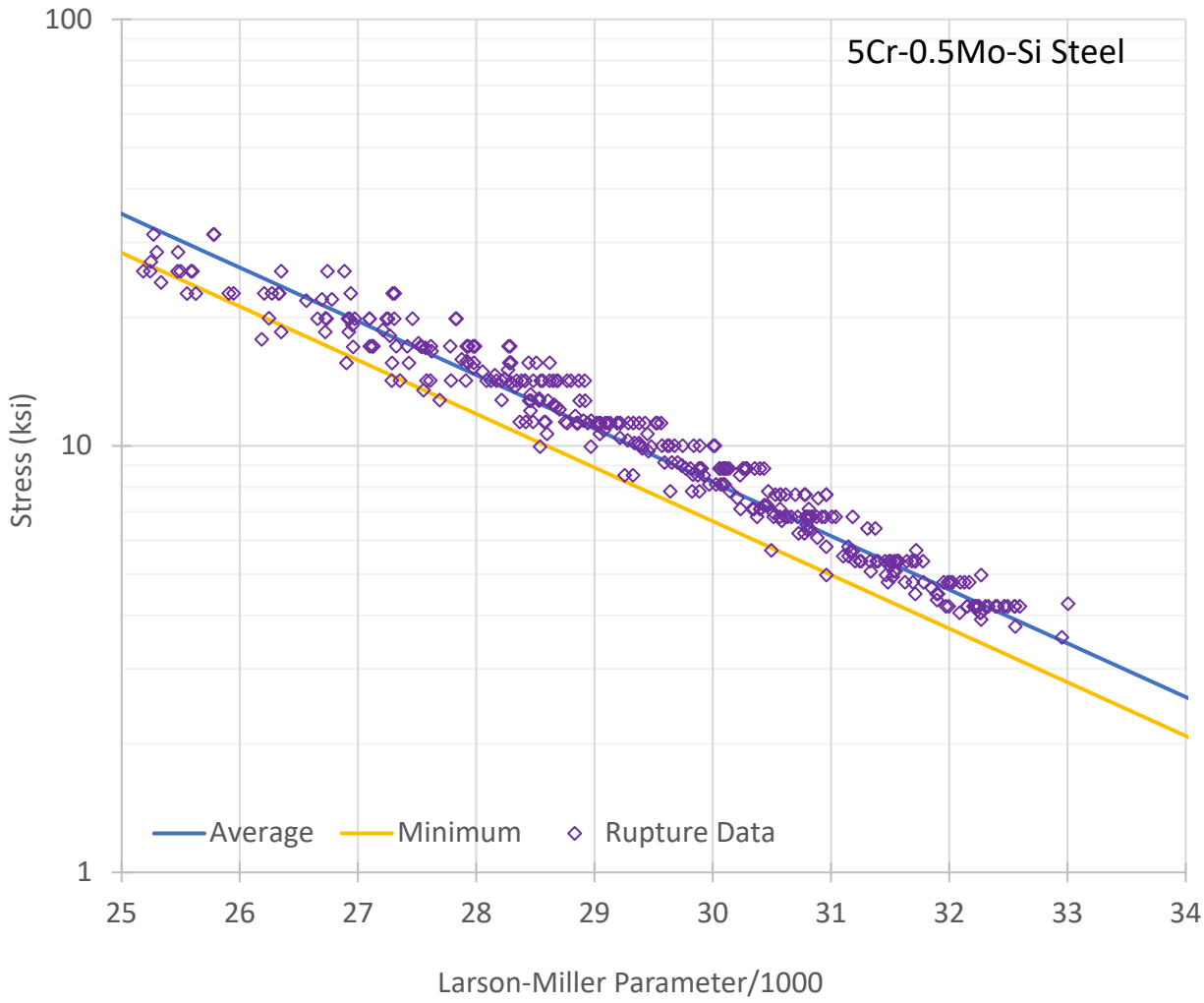


**Figure 15.9-2 – The Average and Minimum Stress-Rupture Strengths as Functions of the Larson-Miller Parameter Compared to Rupture Data, in US Customary Units, Based on the Average Larson-Miller Constant: 5Cr-0.5Mo-Si**

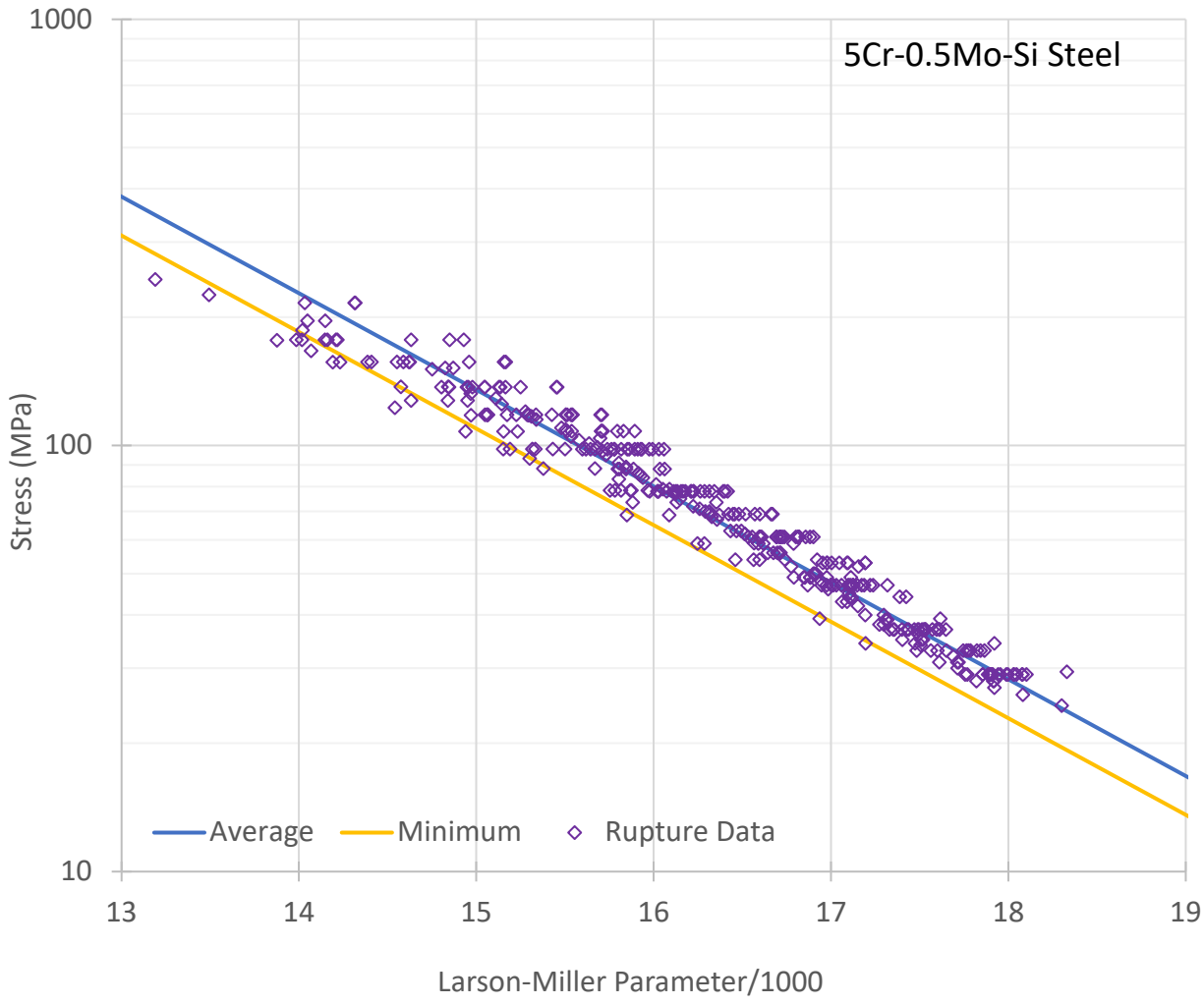


**Figure 15.9-2M – The Average and Minimum Stress-Rupture Strengths as Functions of the Larson-Miller Parameter Compared to Rupture Data, in US Customary Units, Based on the Average Larson-Miller Constant: 5Cr-0.5Mo-Si**

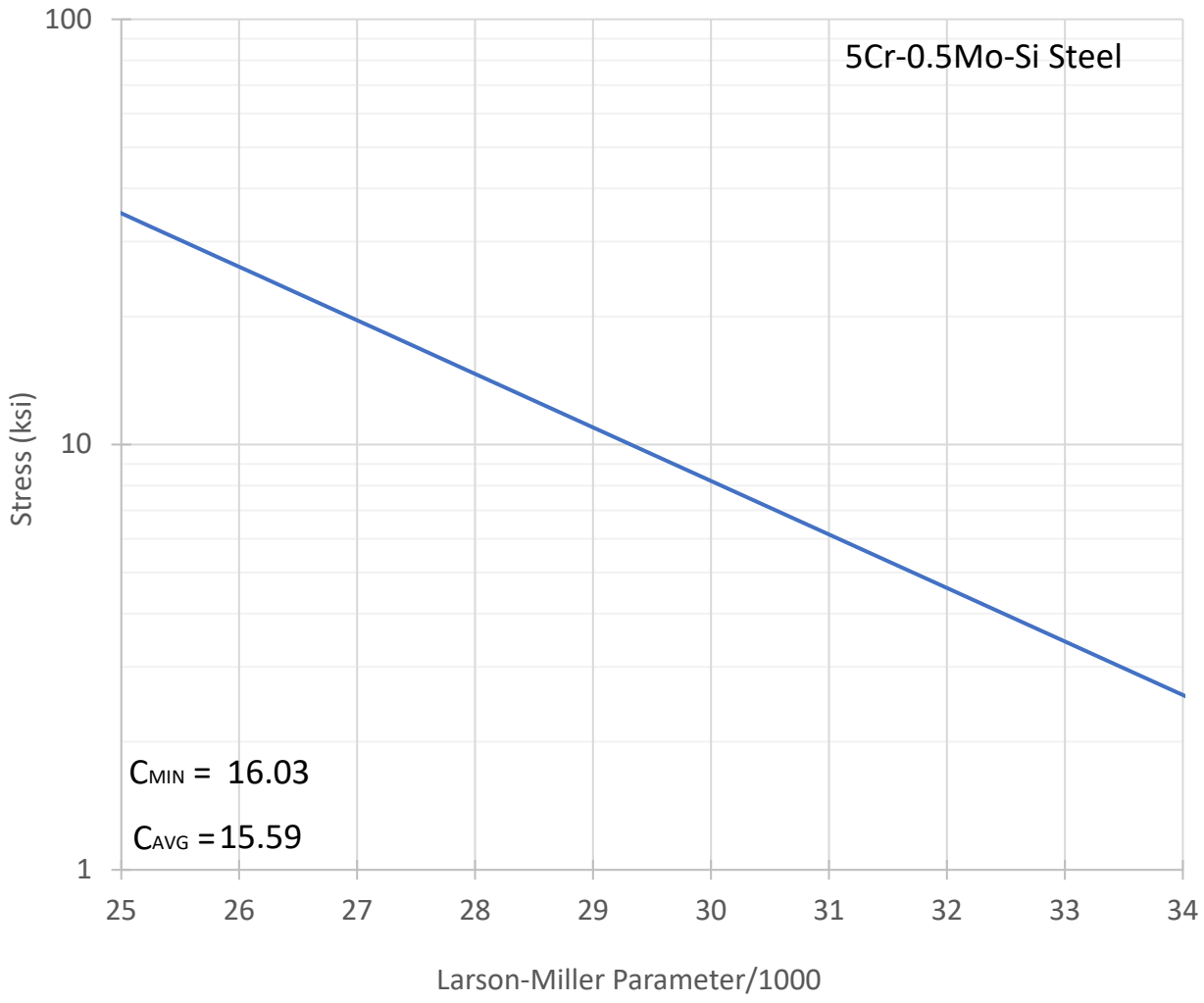


**Figure 15.9-3 – Design Curve Showing the Larson-Miller Parameter as a Function of Stress in US Customary Units. The Minimum Larson-Miller Constant ($C_{min}$) is used to Calculate Minimum Time-Dependent Properties and the Average Larson-Miller Constant ($C_{avg}$) is used to Calculate Average Time-Dependent Properties: 5Cr-0.5Mo-Si**

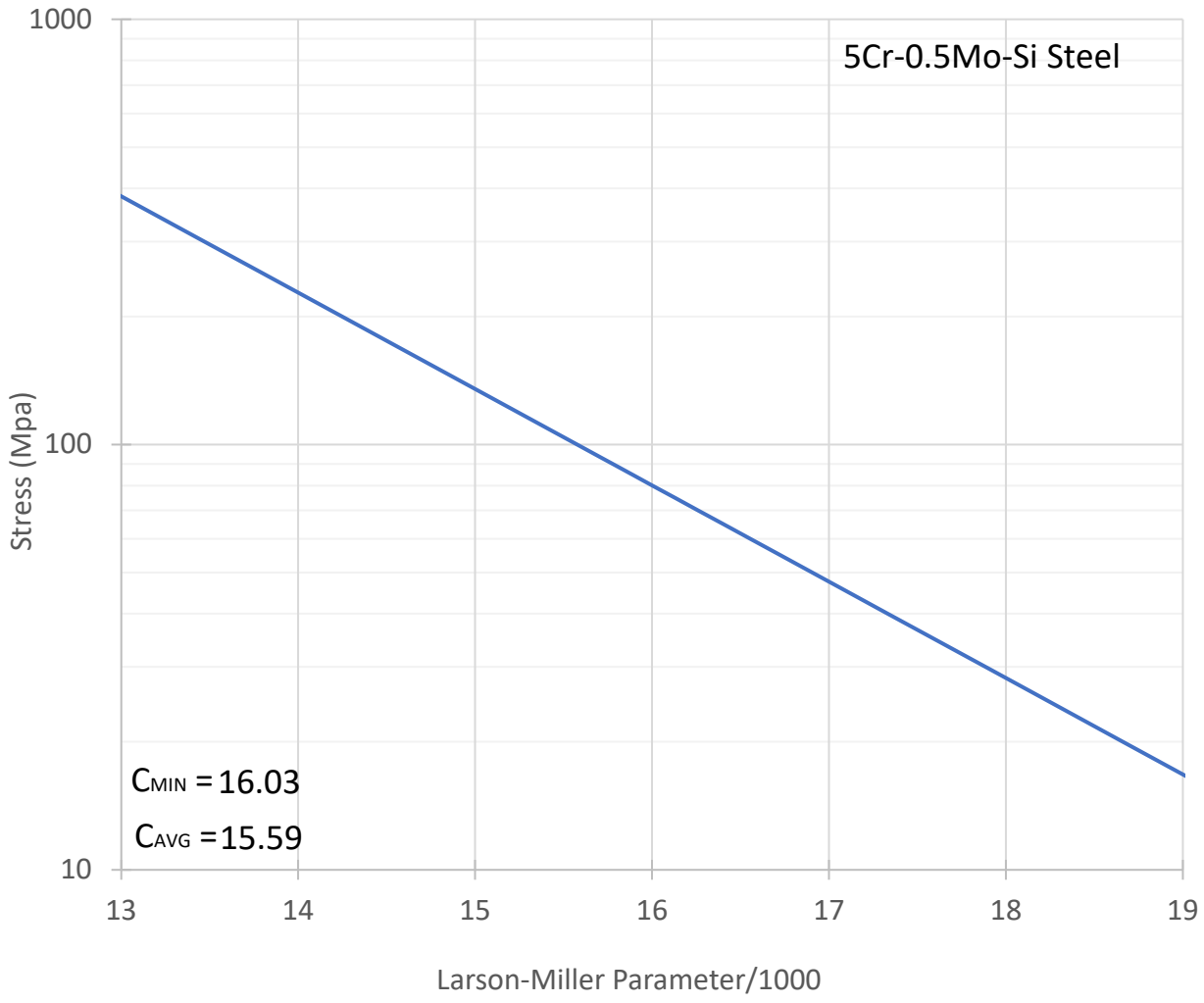


**Figure 15.9-3M – Design Curve Showing the Larson-Miller Parameter as a Function of Stress in Metric Units. The Minimum Larson-Miller Constant ($C_{min}$) is used to Calculate Minimum Time-Dependent Properties and the Average Larson-Miller Constant ($C_{avg}$) is used to Calculate Average Time-Dependent Properties: 5Cr-0.5Mo-Si**

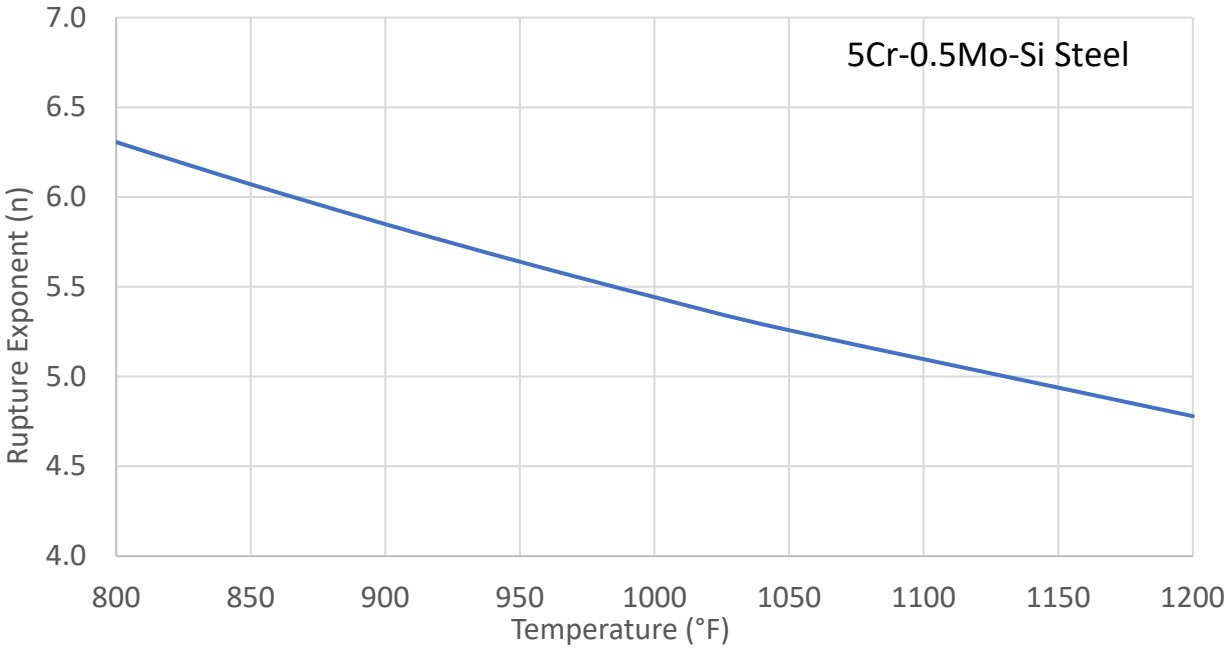


**Figure 15.9-4 – Rupture Exponent as a Function of Temperature: 5Cr-0.5Mo-1Si**

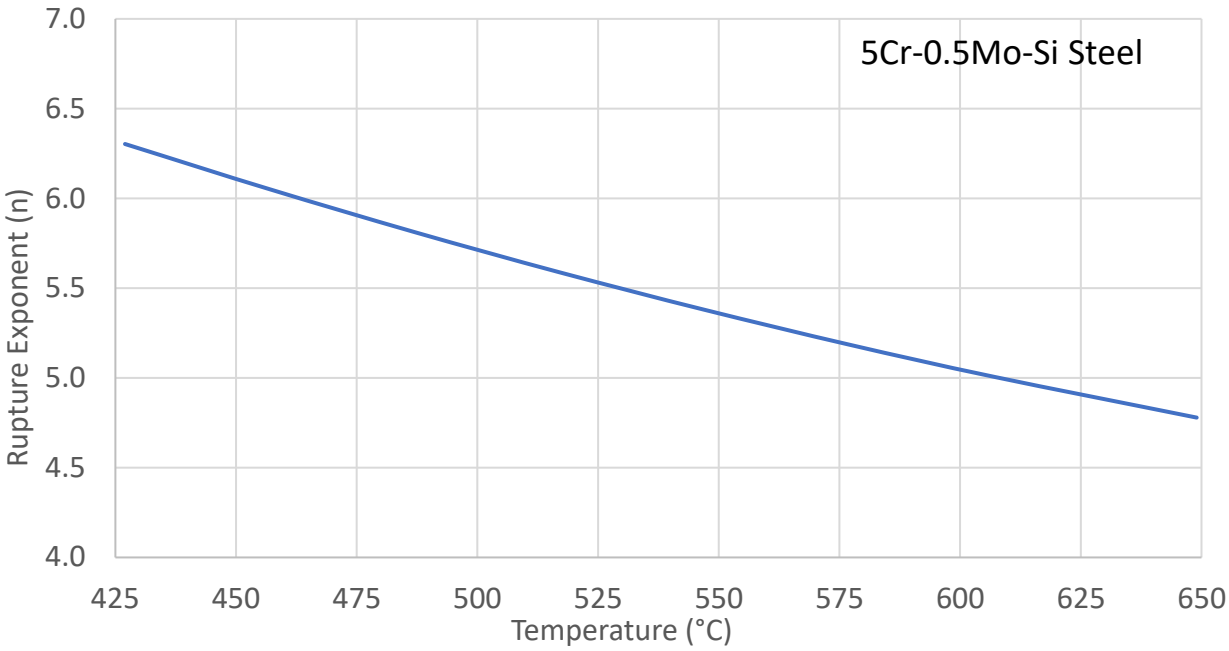


**Figure 15.9-4M – Rupture Exponent as a Function of Temperature: 5Cr-0.5Mo-1Si**

### 15.10 7Cr-0.5Mo

This alloy is seldom specified and has been deleted from most current ASTM specifications. Available creep and rupture data for this alloy is largely comprised of tests on material manufactured between the 1940s and 1960s. For this third edition, the dataset for 7Cr-0.5Mo was expanded to include all available historical data; minimum and average material property fitting was performed on this dataset. Also, in this third edition, discrepancies from the second edition between the polynomial fits (Table 3) and their graphical representation were resolved.

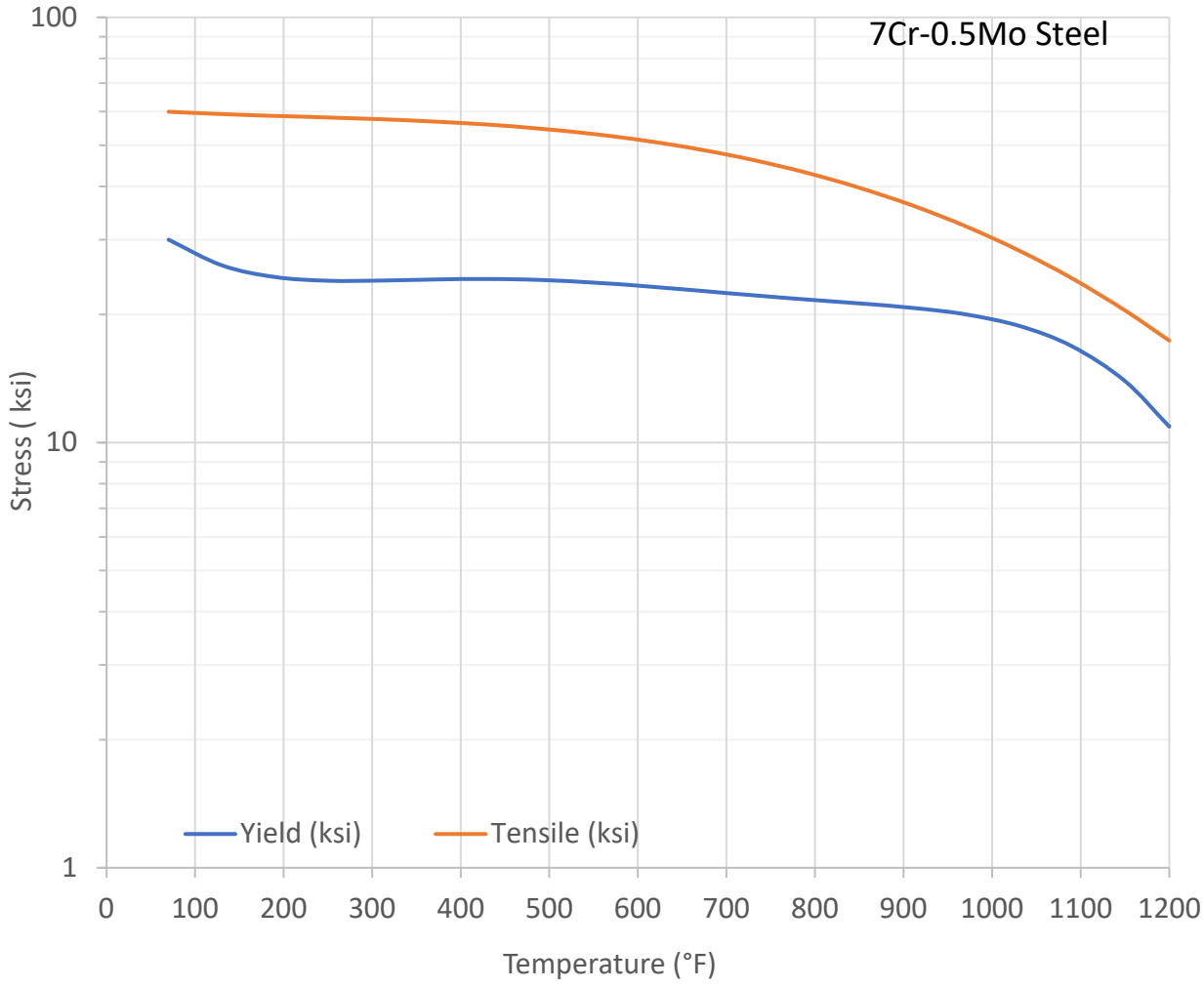


**Figure 15.10-1 – Yield and Ultimate Tensile Strength as a Function of Temperature in US Customary Units: 7Cr-0.5Mo**

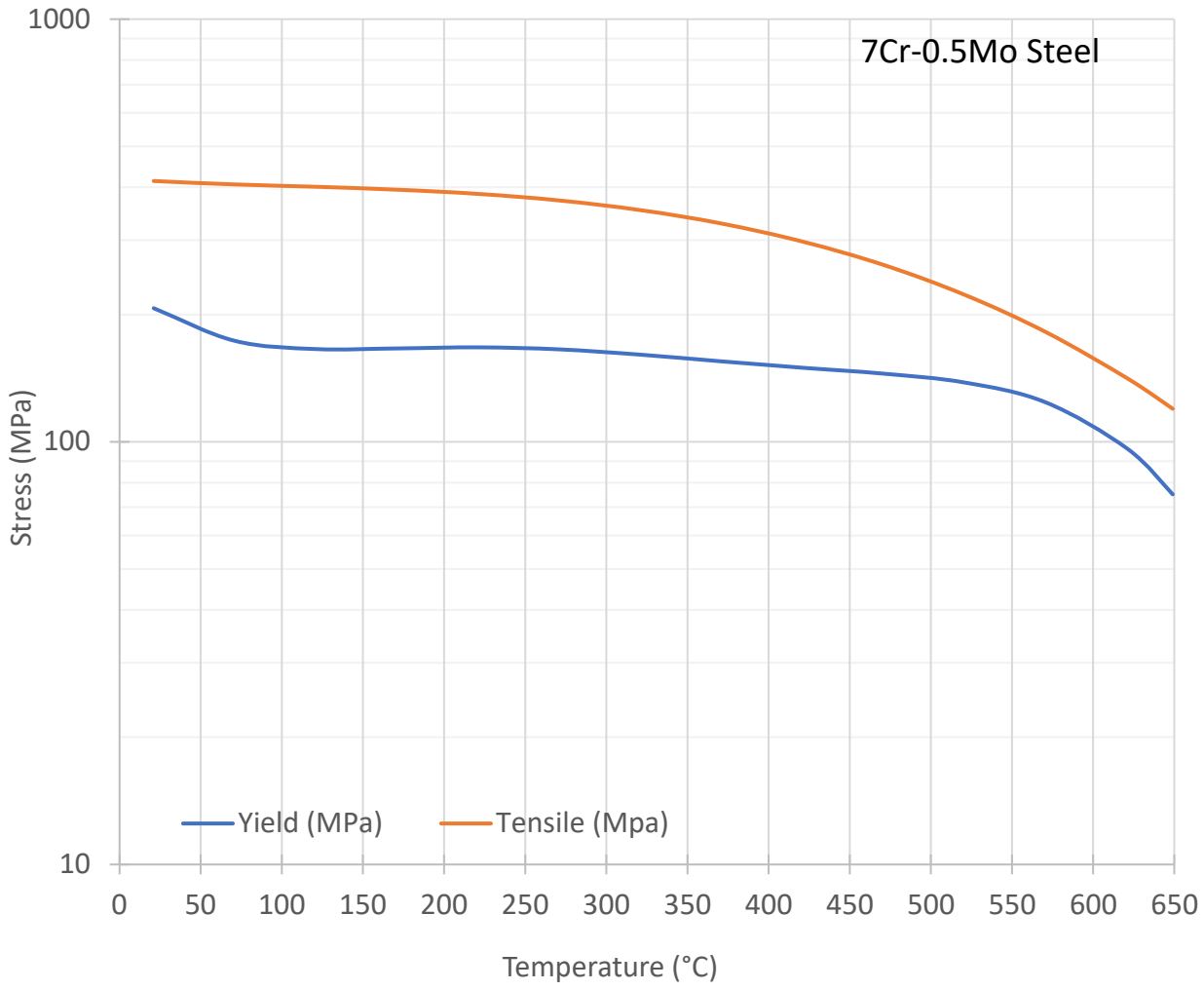


**Figure 15.10-1M – Yield and Ultimate Tensile Strength as a Function of in Metric Units: 7Cr-0.5Mo**