



# **Mechanics of Materials I:**

## **Fundamentals of Stress & Strain and Axial Loading**

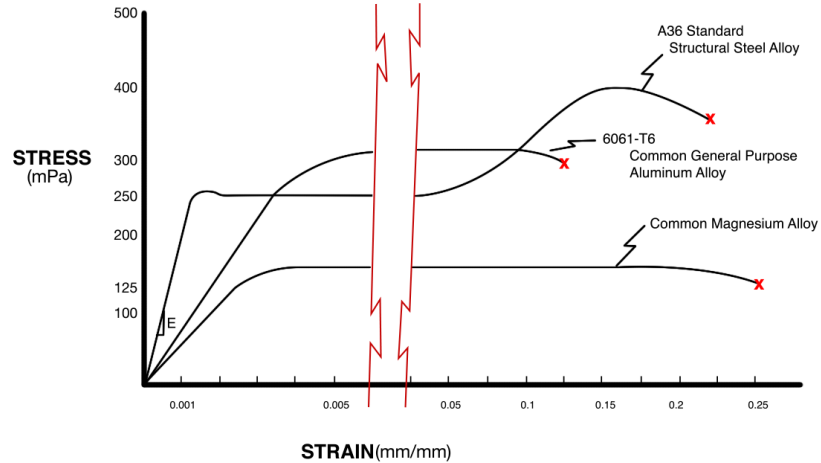
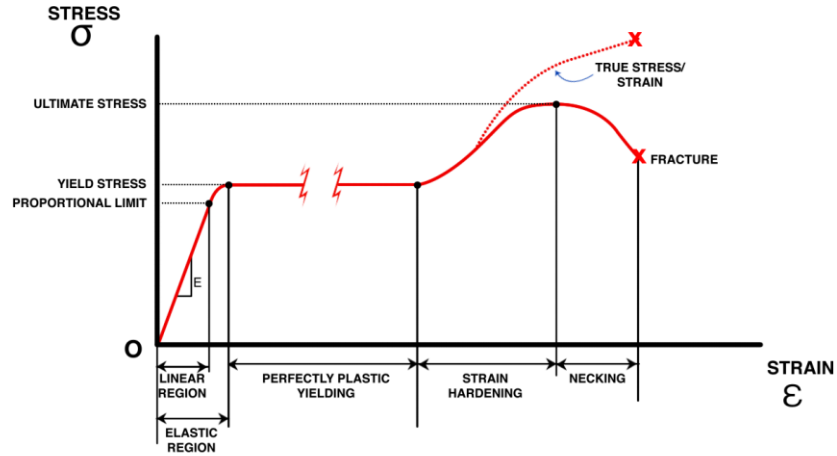
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## Module 11 Learning Outcomes

- Continue to Define/Discuss Material Properties associated with Stress-Strain Diagrams
- Define/Identify 0.2% Offset Yield Stress

# Normal Stress-Strain Diagram

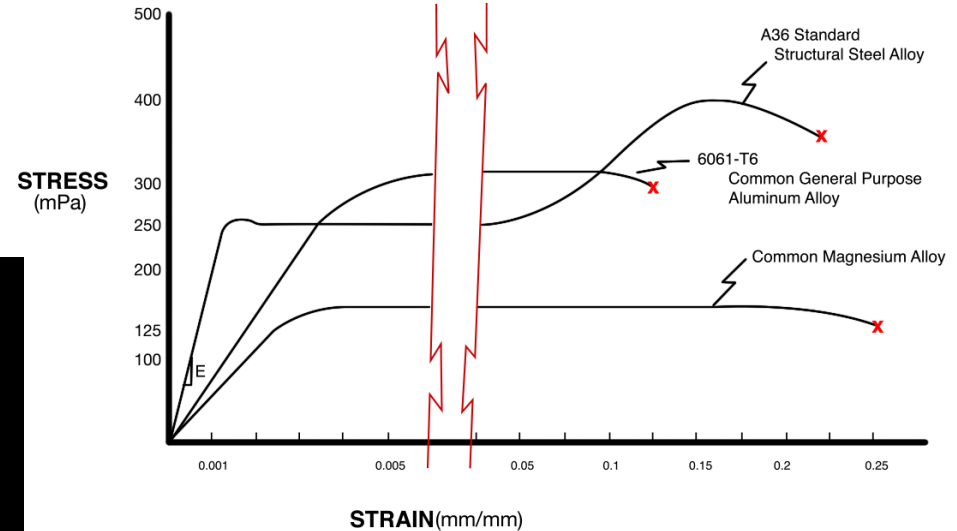


# Material Properties

## Materials without an obvious yield point

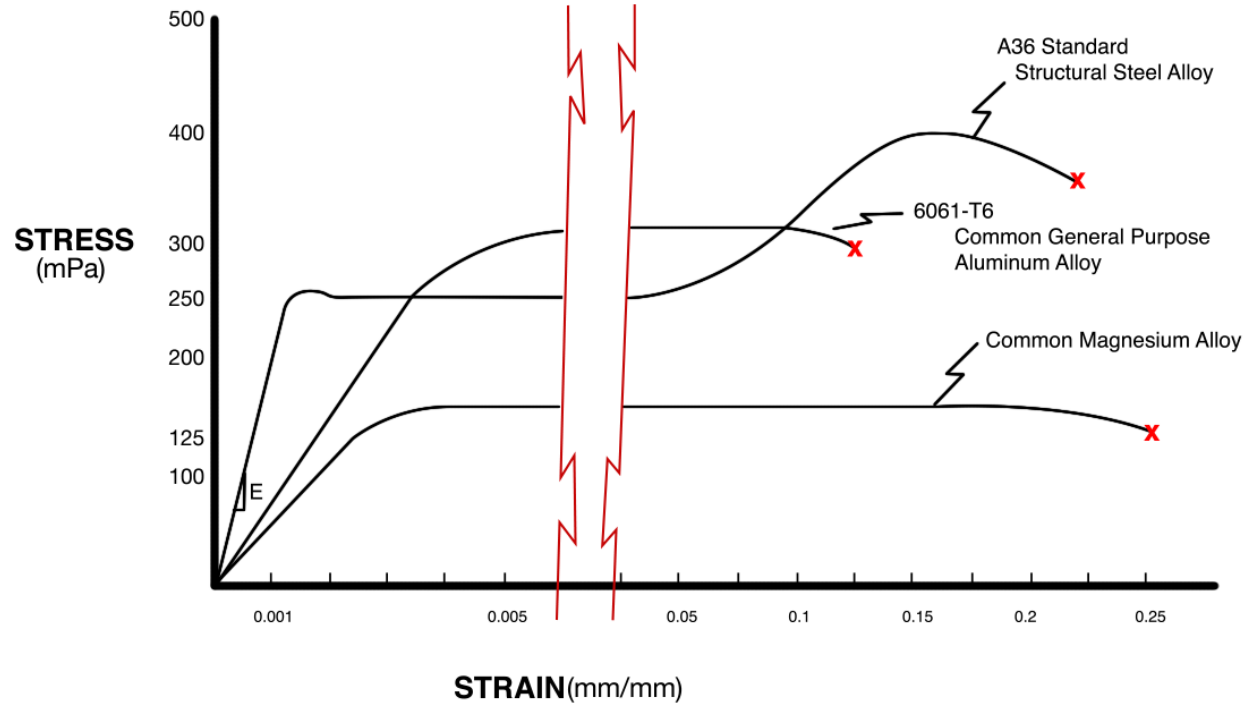
**Yield Stress:** Lowest stress that produces permanent deformation.

If the point of yielding is difficult to identify, typically the 0.2 % Offset Yield Stress is defined.



## Worksheet

What is the  
approximate 0.2%  
Offset Yield Stress of  
6061-T6 Aluminum?



## Worksheet

What is the  
approximate 0.2%  
Offset Yield Stress of  
6061-T6 Aluminum?

310 MPa

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