Figure: Stress-strain diagram showing Elastic and Elastic-plastic response.

Legend:
- Elastic
- Elastic-plastic

$\sigma = E\epsilon$

$\sigma = \sigma_y + k(\epsilon - \epsilon_y)$

Vertical axis: Stress, σ, with markings at 0 and σ_y.

Horizontal axis: Total Strain, $\epsilon = \epsilon_e + \epsilon_p$, with markings at 0 and $\epsilon_y = \sigma_y/E$.