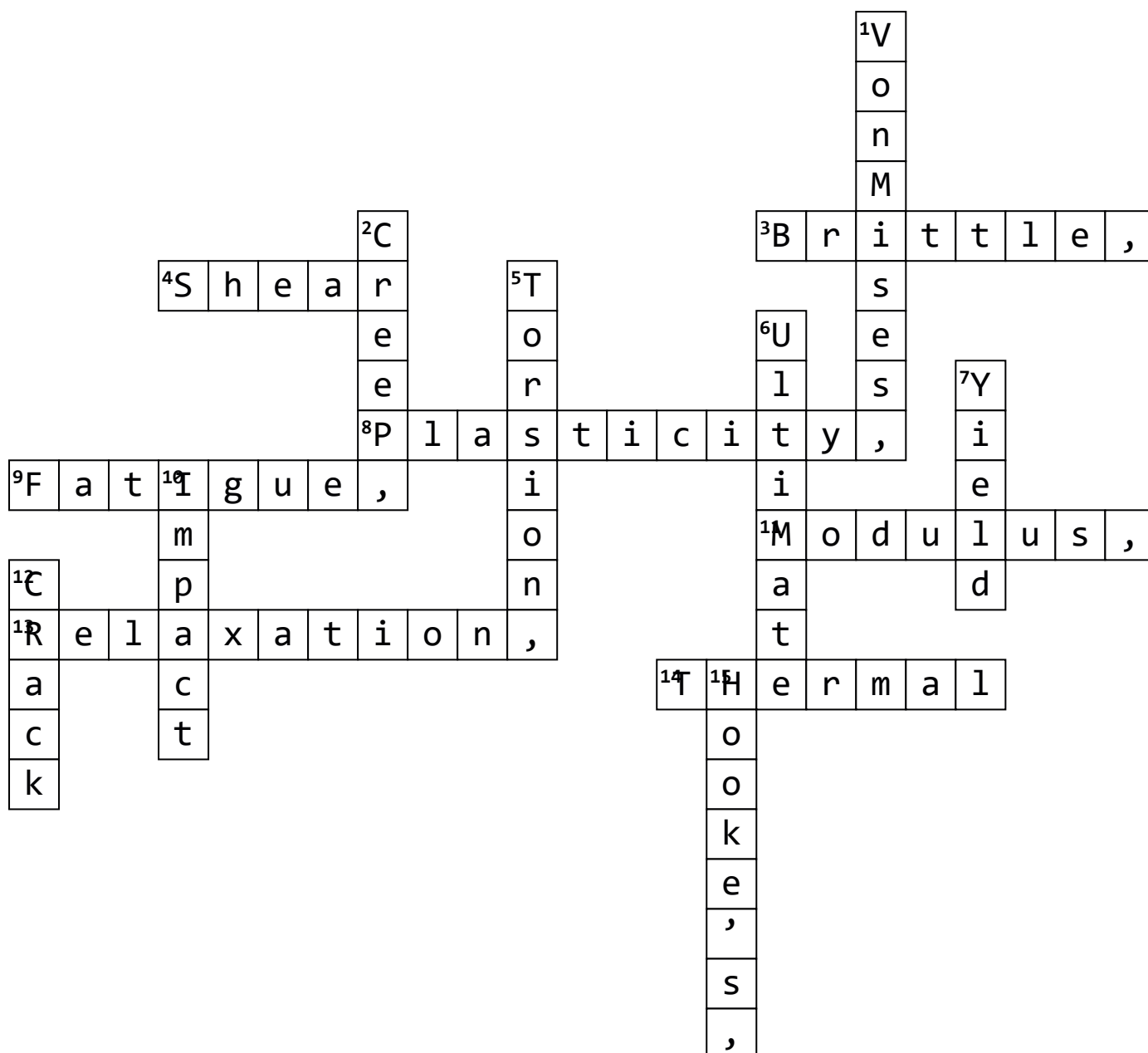


# Stress and Failure Analysis



## Across

3. What type of material fails with little or no plastic deformation?
4. strain, What is the angular change between two lines originally perpendicular?
8. What is the property of a material to retain deformation after load removal?
9. What type of failure occurs due to repeated cyclic loading?
11. What property is the ratio of stress to strain in elastic deformation?
13. What phenomenon involves decrease in stress under constant strain?
14. expansion, What effect causes a material to expand with rising temperature?

## Down

1. Which failure theory is used for ductile materials under complex loading?
2. What time-dependent deformation occurs under constant load at high temperature?
5. What kind of stress occurs when a shaft is twisted?
6. strength, What is the maximum stress a material can withstand before failure?
7. point, What is the point at which a material begins to deform plastically?
10. loading, What type of loading occurs suddenly and with high force over short time?
12. propagation, What does fracture mechanics study in materials?

**15.** law What fundamental law defines the linear relationship between stress and strain?