

DYNAMIC MECHANICAL ANALYSIS (DMA) THEORETICAL TRAINING

TRAINING MODULE



- **Format:** Online self-learning module
- **Target group:** Researchers
- **Provider:** University of Twente
- **Certificate:** Digital badge
- **Duration:** 3 hours
- **Level:** EQF 5 - 7
- **Language:** English
- **Costs:** Free

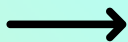
Rubber is neither a perfect spring nor a perfect liquid, and that dual nature determines how it performs under repeated loading. Dynamic Mechanical Analysis (DMA) is one of the most powerful techniques for understanding it.

In this training module, you will learn the theory behind DMA: how viscoelastic materials respond to oscillatory deformation, and how storage modulus, loss modulus, and tan delta describe stiffness and damping. You will explore measurement modes and key test parameters, and discover how polymer type, filler content, crosslink density, temperature, and frequency influence the results.

You will also learn how time-temperature superposition predicts long-term behavior, and how tan delta at specific temperatures relates to tire rolling resistance and wet grip. Complete your learning by following this module with the practical DMA training.



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