New materials: promise and proof

Distinguish research potential from demonstrated product performance.

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1 Graphene and composites

Material properties depend on form, quality and manufacture. A laboratory result is not a construction-product rating.

2 Aerogel products

Compare the supplied product, including thermal, fire, handling and durability evidence.

3 Responsive materials

Shape-memory and self-healing concepts require evidence for the intended temperature, loading and environment.

4 Digital design

Simulation can help screen options. Validate assumptions and confirm predictions with physical tests.

5 Environmental claims

Assess raw materials, processing, transport, lifespan and end-of-life options within a consistent scope.

6 Route to adoption

Require repeatable manufacture, quality control, usable details, approval evidence and supply-chain support.

Ask what has been tested, at what scale, and under which conditions.

REFERENCE GUIDANCE

NPL: graphene and materials measurement

Use current product instructions and the approved project design. For regulations, confirm the UK nation, applicable edition and transitional arrangements.