

# Quality management in membrane and lightweight construction



## Quality management and material testing – for safety in membrane and lightweight construction

Thanks to technical advancements in textile and lightweight construction engineering as well as increasingly efficient materials, it is becoming possible to design and build membrane structures with spectacular shapes and enormous spans. However, to ensure the highest level of safety in this area, vigorous quality management is required, in which the independent monitoring and testing of manufacturing, production, and installation processes as well as of materials and detailed solutions are given highest priority. With our expertise, we support manufacturers, designers, and technical planners and offer comprehensive consulting during all phases of project implementation.

### What safe membrane construction stands for

The opportunities for using technical textiles or films on roofs and façades are almost unlimited. Often, PTFE or silicone coated glass fiber fabric, PVC-coated polyester fabric and ETFE film are used. A requirement for such innovative and often highly individual solutions is of course that they possess sufficient resistance to the mechanical and weather-induced loads that occur.

DEKRA helps you to ensure the required quality of material and construction. As independent experts, we execute initial testing, third party testing, and quality assurance for the issue of product certificates and accompany you reliably in obtaining consent on an individual basis for your construction project. Our Laboratory for Technical Textiles and Films is recognised by the German Institute for Construction Engineering (DIBt) as a testing, monitoring, and certification body for films and coated fabrics in accordance with the state building regulations. In addition, we are accredited according to DIN EN ISO/IEC 17025.

We are also happy to assist you as an experienced partner when it comes to structural problems, cases of damage, and the development of project-specific testing and measuring equipment.

### What DEKRA offers you

Our experienced laboratory team is pleased to provide you with help and advice – on any scale desired. Harness these advantages:

- > Expert support in all phases of product development, manufacturing, and application
- > Independent testing and monitoring by a recognized and accredited laboratory according to DIN EN ISO/IEC 17025
- > Fast, reliable results
- > Leading consulting expertise in structural and technical issues
- > Comprehensive range of services from one source – including in adjacent fields

We support you from the start: practically, reliably, and without complications. And always with a view to your goals.



## An overview of our services:

The DEKRA Laboratory for Technical Textiles and Films offers you a large range of specialized services in the field of membrane and lightweight construction. With the expertise and technical support of our experts, you can make your suspended structures even safer and achieve the highest standards of quality – from the planning stage to final assembly.

Manufacturing process		Structural application		
Development	Production	Planning	Construction phase	Use phase
<ul style="list-style-type: none"> <li>&gt; Consulting on materials and detail solutions</li> <li>&gt; Material testing according to international standards</li> <li>&gt; Project-specific test assemblies and inspection reports</li> <li>&gt; Consulting in terms of building physics</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Product testing</li> <li>&gt; Certification</li> <li>&gt; Production monitoring</li> <li>&gt; Independent quality assurance</li> <li>&gt; Quality management</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Structural and technical consultancy</li> <li>&gt; Expert statement for consent on an individual basis</li> <li>&gt; Expert statement on Atex of membranes (France)</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Installation supervision</li> <li>&gt; Independent quality assurance</li> <li>&gt; Development of testing equipment and test devices for building site or long-term monitoring</li> <li>&gt; Technical consulting</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Damage analysis and assessment</li> <li>&gt; Regular building assessment</li> </ul>

Overview of standards:				
<ul style="list-style-type: none"> <li>&gt; ASTM D 4851</li> <li>&gt; ASTM D 5035</li> <li>&gt; ASTM E 1980-01</li> <li>&gt; CEN TC 248 (Biax test)</li> </ul>	<ul style="list-style-type: none"> <li>&gt; DIN 18204-1</li> <li>&gt; DIN 53354</li> <li>&gt; DIN 53357</li> <li>&gt; DIN 53359</li> <li>&gt; DIN 53363</li> </ul>	<ul style="list-style-type: none"> <li>&gt; DIN 53370</li> <li>&gt; DIN 53530</li> <li>&gt; DIN 53835</li> <li>&gt; DIN 53859-5</li> <li>&gt; DIN EN 1875-3</li> </ul>	<ul style="list-style-type: none"> <li>&gt; DIN EN ISO 13934-1</li> <li>&gt; DIN EN ISO 1421</li> <li>&gt; DIN EN ISO 19074</li> <li>&gt; DIN EN ISO 2286-2</li> <li>&gt; DIN EN ISO 527-1/-3</li> </ul>	<ul style="list-style-type: none"> <li>&gt; EN 17117-1</li> <li>&gt; ISO 4593</li> <li>&gt; MSAJ/M-02-1995</li> </ul>

## Our experience

Everyone talks about safety - we do something about it. Regardless of whether it's for information, advice, measuring, or testing: We are not far away from you. Have you ever met any other safety service provider with such a comprehensive, standardized range of services and consistent quality?

See for yourself what our services can do for you – or just speak to us.

We look forward to talking to you.

## Other services you benefit from

DEKRA also offers you professional testing and consultancy services in many related areas, including:

- > Building stability and road safety testing
- > Stadium inspections
- > Construction and project management
- > Site management
- > Building site coordination (OHS)
- > Technical & environmental due diligence
- > Energy audit (DIN EN 16247-1)

and much more.

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On the safe side.