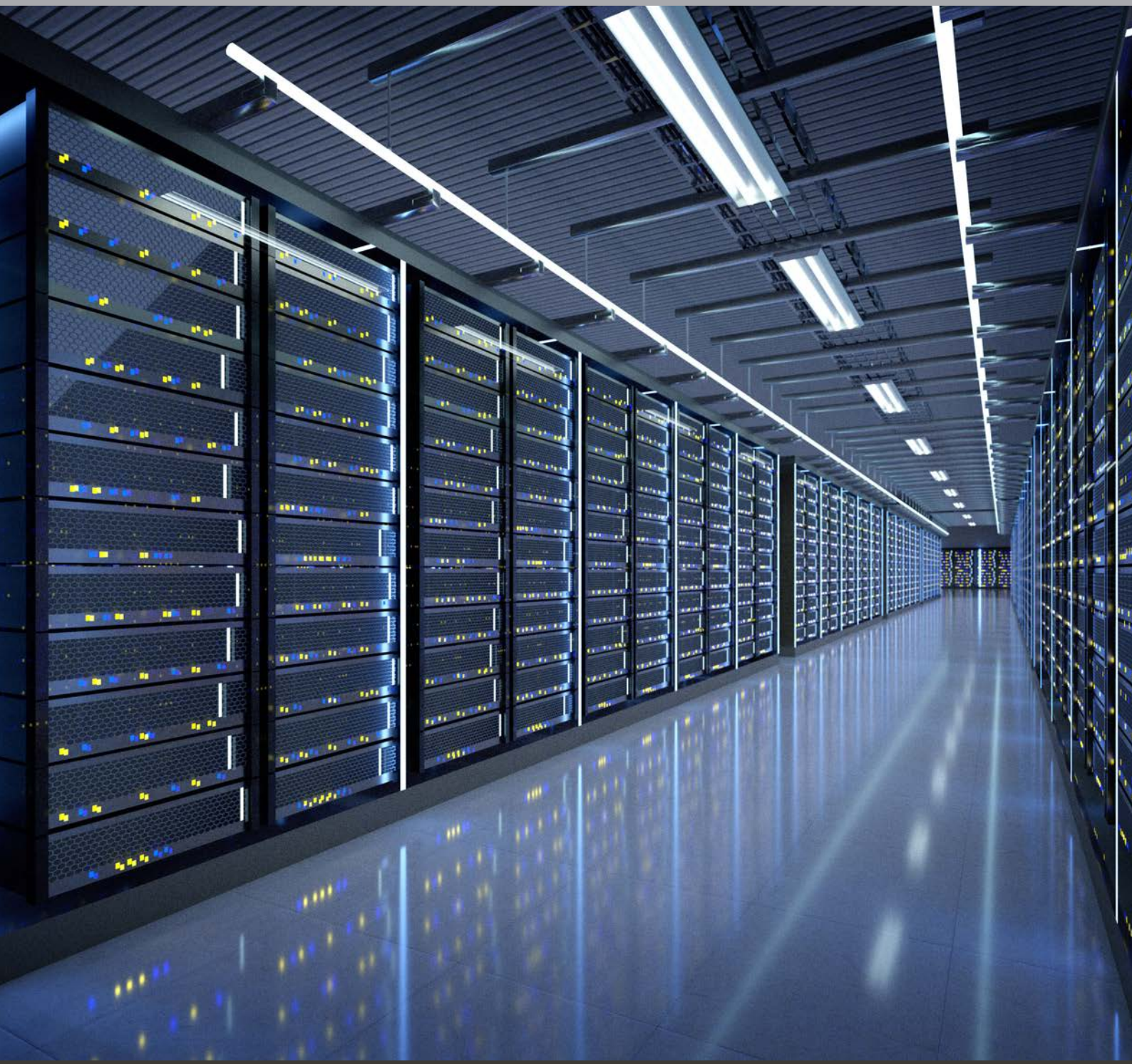
Pyrotek®

DATA CENTRE

ACOUSTIC SOLUTIONS



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ACOUSTIC SOLUTIONS FOR DATA CENTRES

DATA CENTRE NOISE CHALLENGES

Data centres operate continuously and rely on high-capacity mechanical systems such as cooling equipment, ventilation infrastructure and backup power generation. While essential for maintaining uptime and protecting sensitive equipment, these systems can generate significant levels of noise.

If not properly managed, this noise can contribute to noise pollution, particularly in urban areas where data centres may be located close to residential or commercial developments. High noise levels can also extend beyond facility boundaries, potentially impacting neighbouring properties and surrounding communities.

For these reasons, managing noise emissions has become an important consideration in modern data centre design and operation.

WHY NOISE CONTROL MATTERS

Effective noise control is essential to ensure that data centre infrastructure operates efficiently while meeting environmental and regulatory requirements.

Noise from cooling systems, generators and mechanical equipment can contribute to noise pollution and may affect nearby buildings if not properly controlled. In addition to environmental considerations, excessive noise exposure can also pose a potential health risk to people. Noise exposure can lead to hearing loss, stress, sleep deprivation and decreased productivity.

By incorporating noise control into the initial design of data centre infrastructure, operators can minimise environmental impact, improve working conditions and avoid costly retrofits later in the project lifecycle.

EFFECTIVE ACOUSTIC DESIGN REDUCES NOISE AT THE SOURCE AND CONTROLS TRANSMISSION THROUGHOUT THE FACILITY.

KEY NOISE SOURCES IN DATA CENTRES

Data centres contain several major noise sources associated with their continuous operation and high-capacity infrastructure.

- **Cooling systems and rooftop chillers** generate significant airborne noise due to large condensers and fans operating constantly.
- **Backup generators** produce very high sound pressure levels when running, particularly during testing or emergency operation.
- **Plant rooms and equipment areas**, including internal data halls, contain mechanical equipment that can transmit noise through walls, floors and structural elements if not properly treated.
- **External infrastructure**, such as pipes, ducts and outdoor plant, can radiate noise into surrounding environments and contribute to noise levels beyond the facility boundary.

These combined sources can increase overall facility noise and require acoustic treatment to manage environmental impact.

MANAGING EQUIPMENT NOISE IS ESSENTIAL TO PROTECT SURROUNDING COMMUNITIES AND MAINTAIN REGULATORY COMPLIANCE.

ACOUSTIC TREATMENT STRATEGIES

Effective noise control in data centres focuses on reducing noise at the source, controlling transmission paths and limiting noise emissions to surrounding areas.

Common acoustic strategies include:

Acoustic walls

Absorptive materials installed within plant areas and internal data halls to reduce reverberation, amplification and improve overall acoustic performance.

Equipment enclosures and barrier systems

Acoustic barriers or curtains installed around mechanical equipment or along the external perimeter of the facility to reduce noise transmission to surrounding environments. These systems may include flexible outdoor barriers such as Wavebar® NC or composite products such as Sorberbarrier within equipment enclosures that combine sound absorption and sound blocking for effective noise reduction.

Acoustic lagging and insulation

Specialised lagging systems applied to pipes, ducts and mechanical services to reduce breakout noise from HVAC systems and cooling infrastructure.

Pyrotek acoustic materials are designed to provide:

- Effective sound absorption and noise transmission loss
- Durable performance in demanding industrial environments
- Flexible installation for equipment, structures and enclosures
- Compatibility with HVAC systems and mechanical infrastructure
- Long-term reliability for critical data centre operations

PYROTEK SOLUTIONS FOR DATA CENTRE APPLICATIONS

Pyrotek provides engineered acoustic materials designed to address noise challenges across critical data centre infrastructure.

PRODUCT	INSTALLATION AREA
Reapor	Used in indoor and outdoor applications to reduce noise in plant rooms, mechanical service areas, ventilation ducts, and barrier walls.
Wavebar NC	Outdoor noise barrier that reduces sound transmission for permanent or mobile walls around cooling systems, construction sites, rooftop screens, and generators.
Sorberpoly 2D	Designed to absorb noise in plant rooms, mechanical service rooms, and ceiling linings or panels.
Soundlag	Used to reduce breakout noise in HVAC ducts, chiller units, compressor wrap, and around liquid-filled pipes.
Sorberbarrier	Composite acoustic absorber and barrier designed for lining mechanical equipment such as generators, hydraulic pump enclosures, and internal air ducts.

REAPOR

Reapor® is a high-performance sound absorbing panel manufactured from 100% recycled glass, designed to reduce reverberation and control noise in industrial and commercial environments. The panels provide excellent acoustic absorption and are commonly used in plant areas, equipment enclosures and mechanical spaces where durable noise control is required.

Reapor® panels contain no organic binders, meaning they will not produce toxic smoke when exposed to fire. The rigid panels are lightweight and easy to install using recommended adhesives, and can be cut, drilled or routered using standard woodworking tools to allow installation around equipment and obstacles. Reapor® is suitable for outdoor use, allowing water to drain freely while drying naturally in sunlight, making it ideal for demanding environments.

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Features

- Non-combustible material manufactured from 100% recycled glass
- Lightweight, fibre-free panels for easy handling and installation
- Easy to cut, drill and route using standard woodworking tools
- Resistant to weather, water and UV exposure for outdoor applications
- Durable construction suitable for demanding industrial environments
- Panels allow water to drain freely and dry naturally in outdoors
- No organic binders, reducing the risk of toxic smoke generation in fire conditions
- Natural stone-like appearance suitable indoors and outdoors

NRC	0.95

50 mm thick panel

WAVEBAR NC

Wavebar® NC is a flexible mass-loaded vinyl noise barrier curtain designed to provide high acoustic transmission loss in demanding industrial environments. It is commonly used as an outdoor acoustic curtain or barrier for equipment, chillers and generator enclosures, as well as for pipe wrapping and temporary noise control screens.

Constructed with a high-tensile strength tarpaulin backing, Wavebar® NC offers excellent tear resistance and durability. Its weather-resistant design withstands UV exposure and harsh conditions, making it suitable for outdoor installations where flexible sound blocking is required.

Features

- High-performance mass-loaded vinyl barrier for effective noise reduction
- Tear-resistant with high-tensile strength backing
- Weather and UV resistant for outdoor environments
- Resistant to chemicals, solvents and petrol
- Suitable for acoustic curtains and equipment enclosures
- Multiple fixing options for easy installation
- Available in various weights, widths and roll lengths
- Easy to cut, sew, weld or mechanically fasten

Wavebar® 4 kg/m²	Wavebar® 6 kg/m²
Rw 25	Rw 28
Wavebar® 8 kg/m²	**Wavebar® 10 kg/m²**
Rw 31	Rw 34

SORBERPOLY 2D

Sorberpoly® 2D is a high-performance acoustic insulation material manufactured from fine, non-woven polyester fibres. Designed to provide excellent sound absorption across a wide frequency range, it is commonly used as an acoustic lining for equipment enclosures, HVAC units and industrial plant where durable noise control is required.

Produced using a specialised fibre-lapping process, the material forms a strong and resilient acoustic absorber suited to demanding environments. Various facings are available depended on applications.

Features

- Excellent sound absorption across a broad frequency range
- Hydrophobic polyester fibres that will not absorb or retain water
- Resistant to dust, liquids and mechanical damage
- Will not degrade, crumble or develop odours over time
- Non-toxic and safe to handle without skin irritation
- Contains no resin binders or VOCs

NRC	0.95

Sorberpoly® 2D 50 mm thickness

SOUNDLAG

Soundlag® is a high-performance composite acoustic lagging product designed to reduce noise from pipes, valves, fan housings and ductwork in commercial and industrial environments. The system combines a dense mass-loaded vinyl barrier with a premium blue convoluted foam decoupling layer, delivering excellent sound reduction and helping control breakout noise from mechanical services, HVAC ducting and hydraulic systems.

Designed to provide effective acoustic insulation while maintaining flexibility and ease of installation, Soundlag® features a fire-resistant aluminium foil facing that achieves a Class 0 rating and meets international fire standards including BS, AS/NZS and ISO. Tested to AS/NZS 1530.3 with excellent flame resistance and low VOC emissions exceeding Green Star requirements of <0.5 mg/m^2/h, it is suitable for wastewater pipes, compressors and plant equipment where both acoustic performance and fire safety are critical.

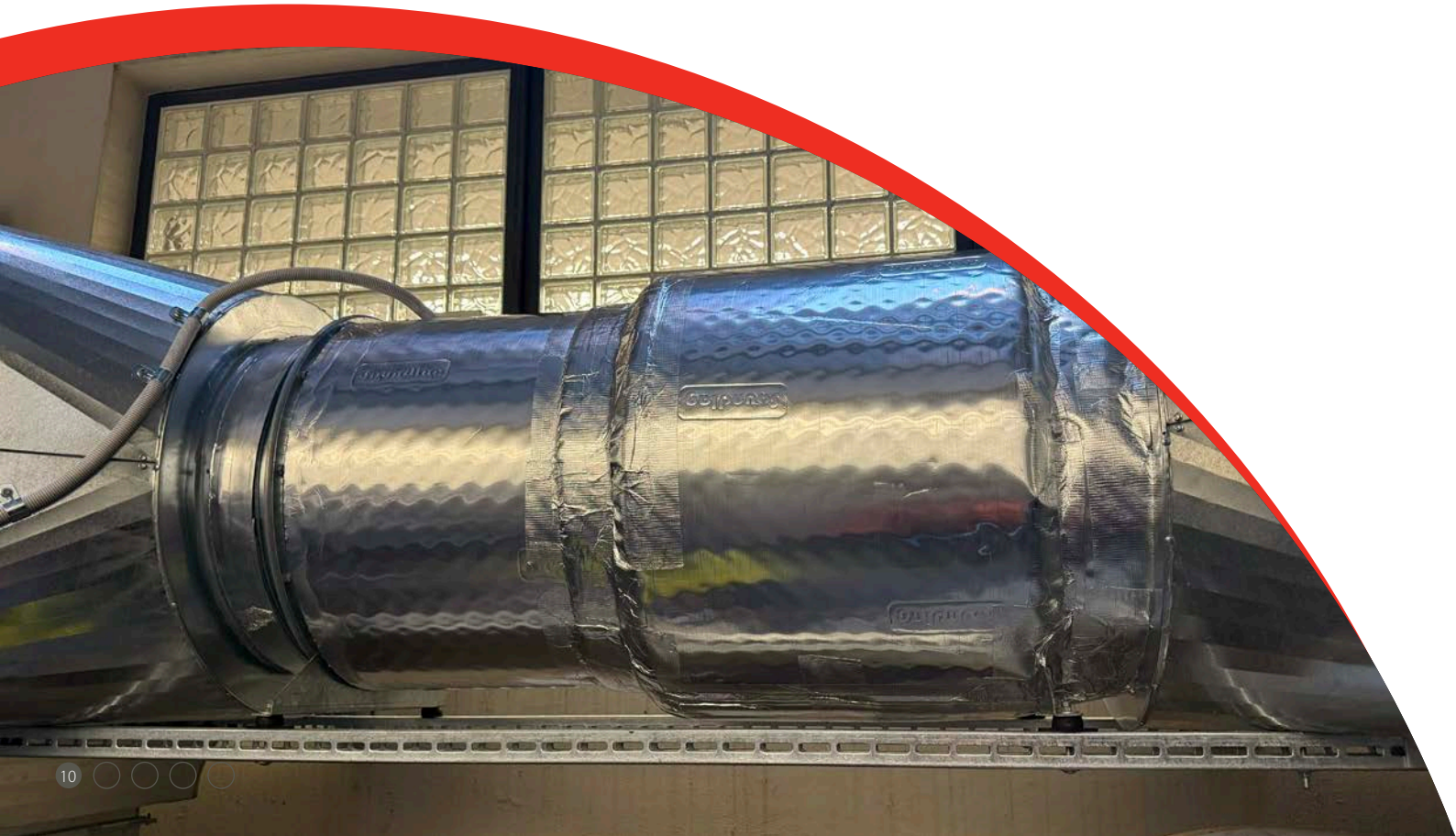
Features

- High-performance mass-loaded vinyl barrier for effective noise reduction
- Tear-resistant with high-tensile strength backing
- Resistant to chemicals, solvents and petrol
- Suitable for acoustic curtains and equipment enclosures
- Multiple fixing options for easy installation
- Available in various weights, widths and roll lengths
- Easy to cut, sew, weld or mechanically fasten

Soundlag® 4525C
reduces noise by up to

25 dB(A)

in hydraulic and wastewater pipes.



SORBERBARRIER

Sorberbarrier is a high-performance barrier-absorber composite designed to provide both excellent sound absorption and high acoustic transmission loss. The product combines the soundproofing performance of mass barrier Wavebar® with the acoustic absorption properties of Sorberfoam™, delivering effective noise control across a broad frequency range.

Its multilayer construction places the mass barrier between two layers of acoustic foam, separating the barrier from the structure and allowing it to remain flexible while improving transmission loss. The absorptive foam reduces reverberant noise build-up within enclosed spaces, making Sorberbarrier suitable for machinery and equipment enclosures, HVAC systems, ductwork insulation and plant rooms where both sound absorption and noise barrier performance are required. Various facings options are available, allowing a more custom finish or targeted acoustic performance.

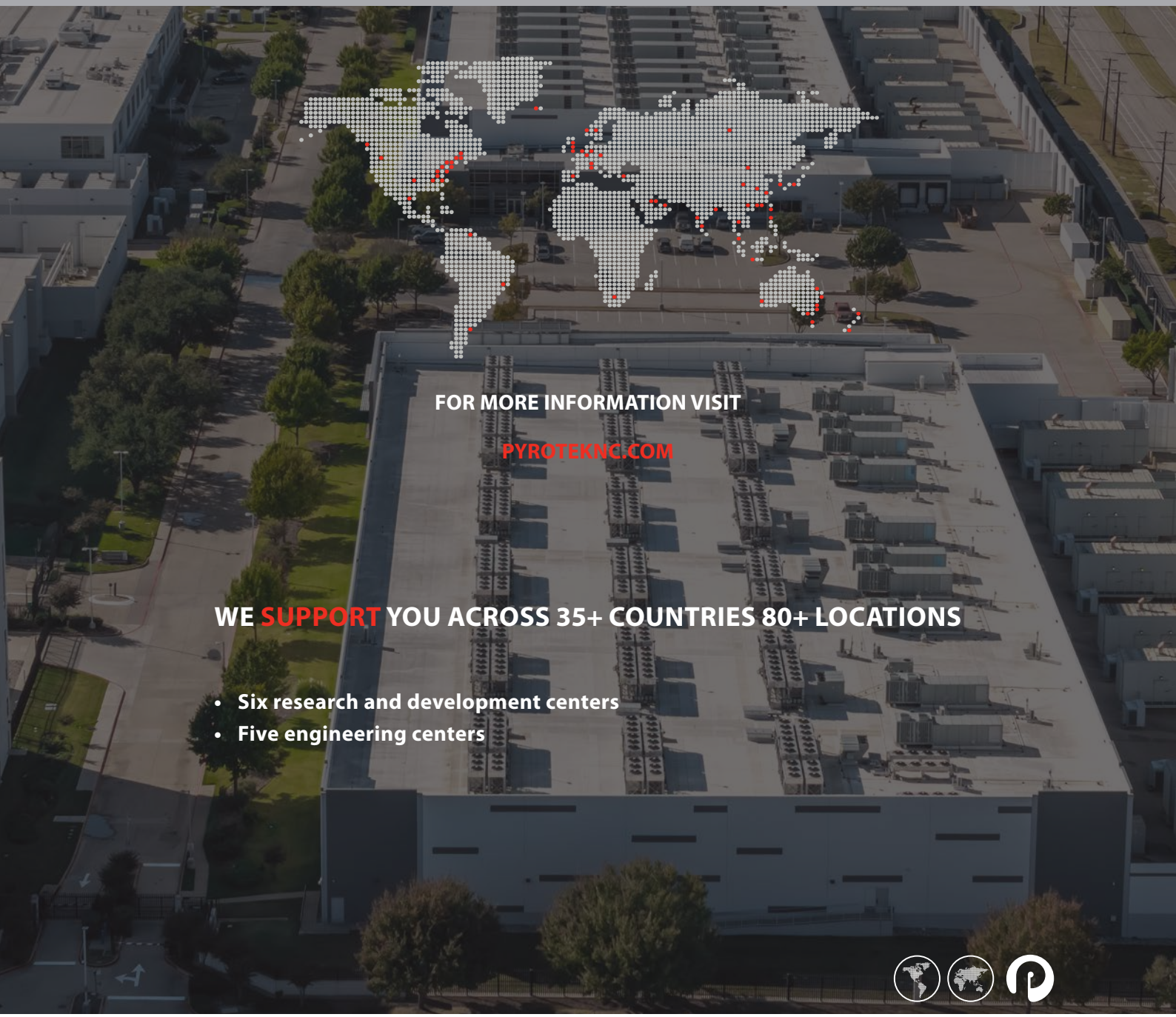
Features

- Flexible mass-loaded vinyl barrier combined with acoustic foam
- Excellent sound absorption and transmission loss
- Resistant to dirt, oil and liquid ingress
- Engineered to resist degradation (foam rot)
- Free from formaldehyde, phenolic resins and irritating fibres
- No ozone-depleting substances used in manufacture
- Easy to cut, adhere or mechanically fasten for installation

NRC	0.60

Sorberbarrier AGC
50 mm thickness

Pyrotek®



FOR MORE INFORMATION VISIT

PYROTEKNC.COM

WE SUPPORT YOU ACROSS 35+ COUNTRIES 80+ LOCATIONS

- Six research and development centers
- Five engineering centers

Pyrotek endorse forest sustainability and the preservation of natural environment. We procure the highest quality materials from suppliers who hold FSC (Forest Stewardship Council) Certification and PEFC (Programme for the Endorsement of Forestry Certification) amongst other certification programmes.