

***duraproof***

*Technologies for durable solutions*

APPLICATIONS



**NOVOPROOF® Sealing systems  
of high performance EPDM-Rubber**

***With tradition***



The DURAPROOF technologies GmbH

**DURAPROOF technologies GmbH** is one of the leading European manufacturers of innovative rubber products, setting standards in environmental compatibility, quality and durability.

Using the latest in technology, and maintaining an awareness of continually increasing market requirements, DURAPROOF technologies GmbH has specialised in the manufacturing of elastomer sealing systems for a wide range of building applications, such as

- **flat and green roofs**
- **windows and facades**
- **ponds and pools and**
- **bridges and tunnels**

Our research and product development, production and quality assurance, administration and distribution, have been situated for decades in our Competence Centre in Wadern-Büschfeld.

## and experience for greater reliability and value maintenance.

**W**ith its unique product range of EPDM rubber systems, DURAPROOF is one of the world's leading suppliers in its field. We place the focus on reliability, protection against damage due to wet and damp, and therefore on maintaining the value of your property.

For example, with highly-resistant sealing profiles and sealing strips for windows and facades, and with individual sealing solutions for flat or sloping roofs, both for new buildings or for renovation.

The **NOVOPROOF®** system family is rounded off by sealing products for ponds and pools, and for track construction. Because the technical and physical requirements are becoming more complex all the time, our products are subject to continual further development, into reliable and always competitive top products.

### Contents

	<i>Page</i>
Permanently reliable sealing systems The <b>NOVOPROOF® SYSTEM</b>	<b>4</b>
It's all in the compound <b>NOVOPROOF®</b> made of EPDM rubber	<b>6</b>
For light roof construction, old and new <b>NOVOPROOF® DA-K</b>	<b>8</b>
Aesthetic and climatic benefits <b>NOVOPROOF® DA-G</b>	<b>10</b>
From old to new <b>NOVOPROOF® DA-S</b>	<b>12</b>
Widely independent of meteorological conditions <b>NOVOPROOF® DA-P 13</b>	<b>14</b>
Solutions for green roofs <b>NOVOPROOF® DA-P 15</b>	<b>16</b>
Ponds and reservoirs <b>NOVOPROOF® TE</b>	<b>18</b>

The technical material data given in this brochure are subject to slight production variations, and do not constitute any assured properties.

# **NOVOPROOF®**

## ***Permanently reliable sealing systems of EPDM rubber***

4

A leaking flat roof often causes the owners and users of a building considerably more damage than simply the cost of repairs to seal a leakage in the roofing membrane. If water drips onto machines or electrical components, a production standstill, shortfall or even the loss of an entire production run can be the outcome. Even a damp patch on a living room ceiling involves considerable organisational and manual work, and a small hole in the roof will soak the heat insulation, increase heating costs and result in unnoticed and insidious destruction of important structures.

With **NOVOPROOF®**, roofs remain reliably sealed for generation after generation.

Even the most complex problems can be solved economically and reliably with **NOVOPROOF®** sealing products.

### **Made-to-measure, not off-the-peg**

The **NOVOPROOF®** system is a product family with special features and variations.

Instead of trying to solve different problems with one and the same product, **NOVOPROOF®** always comes up with an answer, which is tailored individually to the specific problem and application at hand. This is why, when installing **NOVOPROOF®**, we always take into consideration the use of the building, the state of repair, the construction physics, along with the optimised laying method.

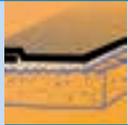
### **NOVOPROOF® – a comprehensive system**

We have the right solution for every problem. For example with **NOVOPROOF® DA-S**, the top system for uncomplicated direct re-roof renovations, which are often installed directly over the old subsurface. Or **NOVOPROOF® DA-P 13**, factory prefabricated and seam welded into one large membrane, this sealing solution is rolled out on the roof in one piece.

Because ecology is becoming more and more important, and water more and more valuable, we have developed **NOVOPROOF® DA-P 15**: proof against roots and ready-made to size, this single-layer sealing for green roofs reflects the environmental awareness of the modern builder.

# The NOVOPROOF® system

Sheets



## NOVOPROOF® DA-S

**NOVOPROOF® DA-S** is the robust renovation system lined with thick non-woven fabric for roofs of wood, concrete or aerated concrete.



## NOVOPROOF® DA-K

**NOVOPROOF® DA-K** is suitable for economical and immediate laying on tread-proof roof insulation, on concrete, for trapezoidal corrugated sheeting, and for new construction and renovation.



## NOVOPROOF® DA-G

**NOVOPROOF® DA-G** is the aesthetic, light grey roof sealing, which significantly reduces incoming heat in the summer months.

Membranes



## NOVOPROOF® DA-P 13

**NOVOPROOF® DA-P 13** is a large-area sealing product with which flat roofs can be covered with a prefabricated sheet up to 900 m<sup>2</sup>.



## NOVOPROOF® DA-P 15

**NOVOPROOF® DA-P 15** is used for the ecological and economic optimisation of green roofs. The material is environmentally friendly, and root-resistant according to the FLL test.



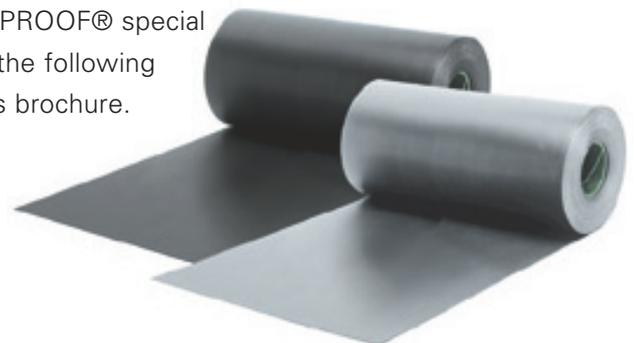
## NOVOPROOF® TE

**NOVOPROOF® TE** is the resistant basis used for permanently sealed ponds, water-gardens and water reservoirs.

### More visual appeal, more comfort NOVOPROOF® DA-G

As a building contractor, architect or consultant, **NOVOPROOF®** now offers you a choice. Apart from the standard colour black, **NOVOPROOF®** is also available in light grey. And there are good reasons for this. One is the visual appeal. Overlooked roofs are now much more attractive, lighter, more pleasant to look at.

Even more important, however, are the climatic aspects. Because a light roof reflects more warmth, its surface is considerably cooler – by approximately 20 °C [68 °F]. Anyone who looks down on a flat roof from a high-rise building will notice the difference immediately. Combined with suitable insulation, NOVOPROOF® DA-G also keeps the temperature lower inside the building because less warmth radiates inside. That in turn means more comfort for anyone who sleeps, lives or works under the roof. NOVOPROOF® DA-G is a meaningful alternative to black for flat roofs exposed to the elements. You will find more information about this and other NOVOPROOF® special features on the following pages of this brochure.



# **NOVOPROOF®**

## ***Extremely durable***

6

EPDM – the primary product behind the **NOVOPROOF®** system – is a proprietary synthetic rubber formulation with unique properties and characteristics, whose formula and mix has been specially conceived for the respective fields of application, on the basis of our many years of experience and the know-how obtained over five decades.

### ***Proven quality***

Permanent elasticity with no migration of plasticizers, resistance to the increasing ozone burden and extreme flexibility at temperatures ranging from -40 °C to +120 °C [-40 °F to +248 °F] are just some of the properties which make **NOVOPROOF®** attractive. **NOVOPROOF®** exceeds all the particularly important quality aspects as described in the German DIN 7864 T1 / ISO standards in all aspects. For example tensile strength: up to 8.3 N/mm<sup>2</sup> is more than twice as high as required by industry standards. The elongation to tear strength is also 270 % greater than stipulated.

### ***Proven durability***

Dillingen Steelworks in Saarland, Germany. Steel, dust, extreme thermal stresses – typical heavy industry. DEKRA, (a monitoring agency) analysis of a sample material of EPDM roofing sheets installed in 1974 demonstrates that even after more than 38 years, all of the required elements of the national standards for new roofing sheets have not only been met but even exceeded in many aspects.

### ***Proven competence: NOVOPROOF® specialists***

Experience with literally thousands of problem roofs, expertise in construction physics, close co-operation with roofing specialists and the best system for the job make the **NOVOPROOF®** specialists competent partners for investors and construction engineers. By analysing the actual state of repair on condition of old roofs, our **NOVOPROOF®** specialists can draw up solution concepts before the situation grows serious. This allows them to carefully produce technically sound, economically optimised and above all lasting results – instead of the overhasty and expensive stopgap solutions.

Experience with renovations also leads to the expertise required to successfully complete new building projects. With **NOVOPROOF®**, half a century of experience in sealing flat roofs flows into your project planning. Give us a call – our specialists will be pleased to advise you.



## A perfect seam As it were one-piece

Top-quality craftsmanship depends on the material, its handling and processing capabilities and a well thought-out application. This includes the tried and tested Thermofast® Seam Welding Technique. By welding of the sheets together, Thermofast® produces a homogeneous and therefore absolutely durable seam lap. The sheets are joined to form a single-piece roofing membrane, which is permanently and dependably leak-proof.

## Dependable partners, too

In partnership with interested roofing specialists, **NOVOPROOF®** is currently building up an increasingly close network of specialist **NOVOPROOF®** applicators – companies whose employees are supervised and trained by **NOVOPROOF®** specialists. Firms, to which **NOVOPROOF®** passes on its experience and technical know-how. These companies become experts in their field, which we are more than happy to recommend, ensuring top performance and reliability for decades to come.



## Ecological responsibility

We are aware of our responsibility, and have introduced a modern environmental management system, which guarantees the ecological compatibility of our manufacturing processes and products.

## Dedication to quality

By means of strict quality controls, we permanently guarantee a performance standard that our customers expect of a leading company.



# **NOVOPROOF® DA-K**

*For light roofs, old and new...*

*...light,*

8

The economic immediate laying of the sheets on tread-proof roof insulation of all types can be carried out quickly and without any problem by mechanical fastening and/or partial gluing.

## **Quality creates confidence**

The simple and reliable application of **NOVOPROOF® DA-K** using our Thermofast® Welding Technique guarantees the reliability of the material and work for decades.

This environmental welding method requires no adhesives or solvents, and enables the application of **NOVOPROOF® DA-K** sealing sheets down to temperatures of -10 °C, the welding parameters being adapted in accordance with the laying instructions.

## **Light and robust**

Thanks to its low weight of only 1.7 kg/m<sup>2</sup>, **NOVOPROOF® DA-K** is not only easy to lay, but is also the ideal choice for light-construction roofs of all types. The extremely good ozone and UV resistance, together with the robust yet elastic properties of **NOVOPROOF® DA-K**, guarantee high resistance, almost without ageing, in all climatic zones from the northern taiga to southern desert regions.

## **Green upon green**

Later extension of the roof surface is just as feasible as subsequent planting of the roof – because the herbicide-free sealing sheet is root-resistant.

## **Sealed all round**

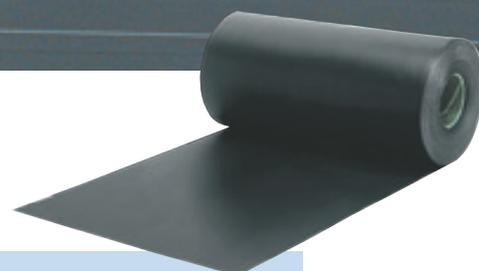
Sealing work with **NOVOPROOF® DA-K** is rounded off by perfectly-fitting preforms for roof penetrations, connections and closures of every shape and form.

We have the solution to every problem.

Our staff can be there to assist and advise you.



*reliable and elastic.*



*Technical data\**

Total thickness:	1.3 mm (1.5 mm available on request)
Width:	1.30 m / 0.65 m / 0,43 m with Thermofast® welding edge
Length:	20 m, special lengths available on request
Colour:	black
Ozone resistance:	yes, to DIN EN 13956
UV exposure:	resistant to DIN EN 13956
Exposure to bitumen:	fulfilled to DIN EN 13956
Root-resistant:	yes
Tensile strength:	≥ 6.0 N/mm <sup>2</sup> to DIN EN 13956
Elongation to tear:	≥ 300 %
Reaction to fire:	class E fulfilled



**NOVOPROOF® DA-K**  
 Fire protection layer (raw glass fibre)  
 Polystyrene insulation layer  
 Vapour retarder aluminium foil  
 Gluing with polymer plastic-rubber adhesives  
 Steel trapezoid profile

**NOVOPROOF® DA-K**  
 with mechanical fastening

\* Material data subject to slight production variations

# **NOVOPROOF® DA-G**

## ***Light roof sealing with additional benefits, attractive appearance...***

**NOVOPROOF® DA-G** can both make a valuable contribution toward improving the climatic situation of a building, while its aesthetic aspects can also be important for the roof sealing, since the more friendly appearance of a light grey roof offers many benefits.



### ***NOVOPROOF® DA-G, light grey for cooler roofs***

In comparison to dark surfaces, light surfaces offer a much better level of reflection for light and heat radiation.

**NOVOPROOF® DA-G** is therefore the ideal roof sealing product, for example in order to optimise design measures for heat insulation of a building during the summer, because the light grey material reflects away a major part of the incoming heat energy.

### ***A ray of light***

Whether for works premises or a shopping centre: overlooked roof area simply become more attractive with **NOVOPROOF® DA-G**. In addition to its climatic function, this unique flat roof sealing product also fulfils the justified requirements for attractive visual appeal. The high degree of reflection also results in lighter rooms and improved daylight conditions.



**... highly reflective, aesthetic and climatic.**



### Light grey quality

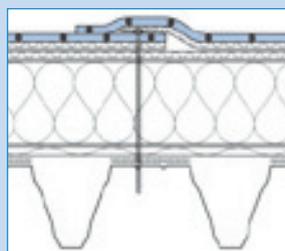
**NOVOPROOF® DA-G** is the first EPDM rubber compound which is equal to the proven usual black version in terms of quality and durability.

**NOVOPROOF® DA-G** is reliably UV-resistant, has the high values typical of **NOVOPROOF®** in terms of resistance to tearing and expansion and can be joined in the same way using the Thermo-fast® seam welding technology.

**NOVOPROOF® DA-G** is ideally suited for direct adhesion or mechanical attachment.

Technical data\*

Total thickness:	1.5 mm
Width:	1.30 m / 0.65 m with Thermo-fast® welding edge
Length:	20 m, special lengths available on request
Colour:	light grey
Ozone resistance:	yes, to DIN EN 13956
UV exposure:	stable
Exposure to bitumen:	fulfilled to DIN EN 13956
Root-resistant:	yes
Tensile strength:	≥ 6.0 N/mm <sup>2</sup> to DIN EN 13956
Elongation to tear:	≥ 400 %
Reaction to fire:	class E fulfilled



### NOVOPROOF® DA-G

- Heat insulation layer mineral fibre
- Plastic vapour barrier strip
- Steel trapezoid profile

**NOVOPROOF® DA-G**  
with mechanical fastening

\* Material data subject to slight production variations

# NOVOPROOF® DA-S

## Reliable old roof renovation...

...elastic,

12

There are times when everything comes together and removing or rebuilding a roof seems to be the only resort **NOVOPROOF® DA-S** has qualities, which even in cases of extreme damage guarantee a leak-proof solution you can depend on.

**NOVOPROOF® DA-S** is strong! The exceptionally pliable material – a specially formulated EPDM rubber – is inseparably bonded with a particularly tear-resistant and durable fleece backing. This produces a 2.5 mm thick roofing sheet with really exceptional properties, almost a system in itself.

### It can take the strain

Not only the excellent physical properties make **NOVOPROOF® DA-S** ideal for renovating problem roofs:

- Even rough surfaces such as compressed gravel roofs can usually be overlaid directly
- After inspection, the existing subsurface can often be left intact. This eliminates costs for demolition, disposal and special waste
- No problem to install over uneven surfaces, timber-based formwork, cellular concrete and concrete slabs



What's more, **NOVOPROOF® DA-S** can be installed according to almost any of the customary installation techniques:

- Fully-adhered flame application over bitumen roofs
- Mechanically fastened, for example on concrete, trapezoidal steel sheeting and timber-based roofs where the existing sealing system does not have sufficient adherence on the supporting substructure or where moisture plays a role
- partially adhered to the prepared surface



## flexible and robust.

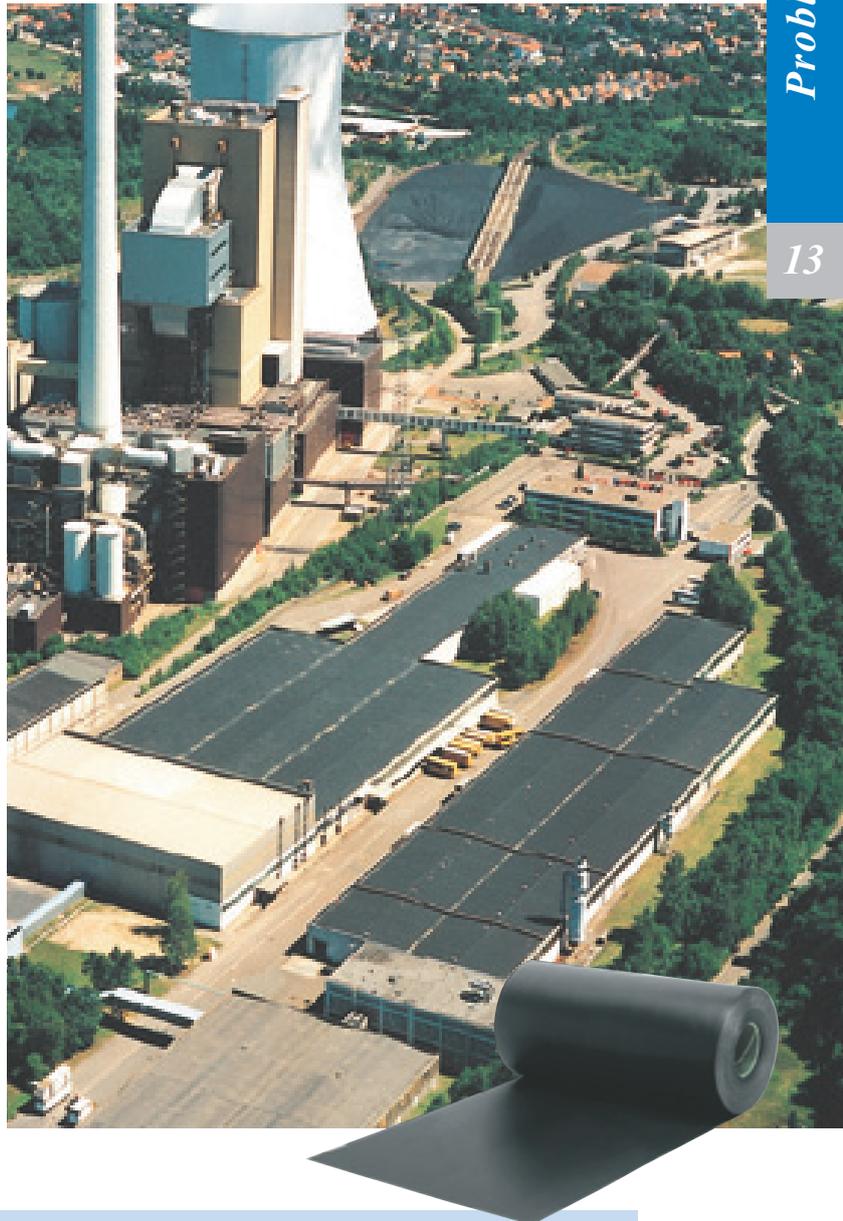
Thanks to its excellent positional stability, **NOVOPROOF® DA-S** is also ideal for use on high-rise buildings.

Of course, **NOVOPROOF® DA-S** can also be joined together with the unique Thermofast® Seam Welding Technique which dispenses with the use of adhesives, solvents, tapes and separating agents. Even at outdoor temperatures of  $-10\text{ }^{\circ}\text{C}$  [ $14\text{ }^{\circ}\text{F}$ ] the Thermofast® technique allows the **NOVOPROOF®** sheets to be welded securely to form a single homogeneous waterproof sealing membrane.

### No on-site bottlenecks Service facilities

As well as offering high quality, **NOVOPROOF® DA-S** also puts economic conditions first, which is why **NOVOPROOF®** takes a systematic approach. For example, with organised logistics for large surfaces, drawing up installation plans, customised prefabrication of membranes and roll lengths cut exactly to size. This means no on-site material bottlenecks and no waiting times, fewer seams, and even greater application reliability. And the costs keep within the original estimates.

- Assessment of the condition of old roof sealing
- Introducing of laying technicians on site
- Exact material requirement of the **NOVOPROOF®** sealing
- Delivery on schedule to any required location



Technical data\*

Total thickness:	2.5 mm
Width:	1.30 m / 0.65 m with Thermofast® welding edge
Length:	20 m, special lengths available on request
Colour:	black
Ozone resistance:	yes, to DIN EN 13956
UV exposure:	stable
Tensile strength:	$\geq 650\text{ N}/50\text{ mm}$ to DIN EN 13956
Elongation:	$\geq 500\%$
Reaction to fire:	class E fulfilled



**NOVOPROOF® DA-S** with  
mechanical fastening



**NOVOPROOF® DA-S**  
partially adhered

\* Material data subject to slight  
production variations



# **NOVOPROOF® DA-P 13**

***Fitted solutions ex-works,  
Reliability made-to-measure...***



**NOVOPROOF® DA-P 13** is the sealing product for large-area, fast and highly economical problem solutions in the field of flat roofs. **NOVOPROOF® DA-P 13** is made from fully-proven materials: rubber from DURAPROOF, the technology professional in the EPDM area. Under controlled, protected factory conditions, individual **NOVOPROOF®** sheets are welded together to create extra-large sealing membranes for covering surface areas of up to 900 m<sup>2</sup>. Because the length of the sheets is unrestricted, the number of seams to be made on site is reduced to a minimum and at the same time maximum sealing effectiveness is guaranteed. **NOVOPROOF® DA-P 13** is tailor-made to suit the exact geometry of the entire roof.

## ***Bad weather? No problem***

Another invaluable advantage of **NOVOPROOF® DA-P 13** is that it can be laid under almost any conditions! The prefabricated membrane can be laid out at almost any time, irrespective of weather conditions or temperatures. This is because **NOVOPROOF® DA-P 13** retains its outstanding flexibility at temperatures from -40 °C to +120 °C [-40 °F to +248 °F], and the Thermofast® welding technology allows reliable jointing of the sheet seams even at exterior temperatures down to -10 °C [14 °F]. The existing roof surface can often be left in place, since a damp subsurface is no problem for this material, thanks to the high vapour diffusion properties of **NOVOPROOF® DA-P 13**.



## ...long-term sealing, flexible and economical.

### Loose laying, firm hold

**NOVOPROOF® DA-P 13** is laid loose as a large-area membrane. The roof skin is then protected against wind suction immediately after laying by a protective layer of gravel or tread panels. A full-surface separating layer is also first applied to the roof if required. This both acts as a movement compensation layer to the subsurface, and also protects the membrane against mechanical damage.

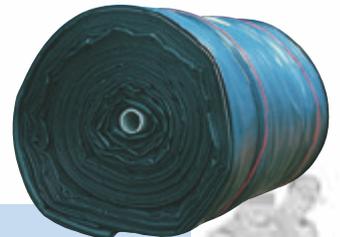
### Moulded parts

To prevent roof penetrations from creating weak points, we also offer a wide range of preformed units to cope with every detail. These are used for the on-site sealing of such things as chimneys, roof-lights, lightning conductors or corners. Prefabrication of these precision-formed parts both increases reliability and reduces the detail work required on the roof.

The system advantages of **NOVOPROOF®**

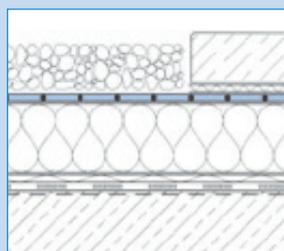
#### DA-P 13:

- Extremely economical roof sealing
- Can be laid at any time of the year
- Large-area membranes up to 900 m<sup>2</sup>
- Factory prefabrication under controlled conditions
- Suitable for both new construction and renovation



Technical data\*

Total thickness:	1.3 mm
Size:	object-related
Colour:	black
Ozone resistance:	yes, to DIN EN 13956
UV exposure:	stable
Exposure to bitumen:	fulfilled to DIN EN 13956
Root-resistant:	yes
Tensile strength:	≥ 5.5 N/mm <sup>2</sup> to DIN EN 13956
Elongation:	≥ 350 %
Reaction to fire:	class E fulfilled
Folding at -30 °C:	fulfilled, no cracks



**NOVOPROOF® DA-P 13**  
Loose-laid with protective layer

Protective layer:  
Paving stones or rounded gravel/stone  
Protective separation layer  
**NOVOPROOF® DA-P 13**  
Heat insulation layer  
Vapour retarder aluminium foil  
Bituminous coating partially adhered  
Preliminary coating on concrete  
Reinforced concrete

\* Material data subject to slight production variations



# **NOVOPROOF® DA-P 15**

## ***Sealing for green roofs and root protection for an ideal climate, both in- and outside...***

16

Nearly every building causes the soil to be sealed, impairs natural water circulation and fills the sewage system with additional rainwater. Green roofs store a large proportion of precipitation, make a valuable contribution to the ecological balance and are also an intelligent alternative to the additional load of pebbles or tiles on a flat roof.

The initial greater investment is worth it in the end if by choosing **NOVOPROOF® DA-P 15** you choose top quality for the base layer and therefore a high degree of reliability for decades to come.



### ***Money from the state***

To promote the creation of green areas, many states and communities have generated subsidies. This means that every green area installed is subsidised and every square meter of a green roof has a positive effect on the cost of drainage. In addition to the ecological and economic benefits, a planted roof also has other interesting advantages.

### ***Green roof, image factor***

Many production processes cannot be completely natural and yet we cannot do without them. A planted roof in this environment is a sign for all to see, a sign which says that this piece of the environment is still good. It documents – prestige awarding – management's environmental concern towards employees and inhabitants alike.



## ...durable, extremely resistant and economical.

### Cool in summer, warm in winter

Green roofs guarantee improved inside temperatures in three ways at once. The drainage layer, substrate and vegetation reduce the impact of the sun. Adiabatic cooling, i.e. the evaporation effect in the green roof, also causes the roof temperature to drop. Instead of having a temperature of 80 °C [176 °F] or more, the roof may have a temperature of only 30 °C [86 °F] and inside temperatures stay lower for longer. In winter, the overall inherent better k value of a green roof ensures that less heat is lost through the roof and therefore results in reduced heating costs.

### Nature above and below

EPDM rubber is a virtually natural material, ecologically harmless and environment compatible. In contrast to many other roof sealing systems **NOVOPROOF® DA-P 15** does not contain any volatile softeners and therefore maintains its excellent elasticity permanently. For example, some bituminous seals have three layers, whereas **NOVOPROOF® DA-P 15** is made of only one layer, it is a robust membrane, seal and protection against roots all in one and contains no root poisons. Proved by more than 30 years of practical experience. This is beneficial to nature and the performance of the planted roof above but also to the people below. Not only does it improve the microclimate – acting as a green lung – it also reduces noise and improves protection against fire considerably.

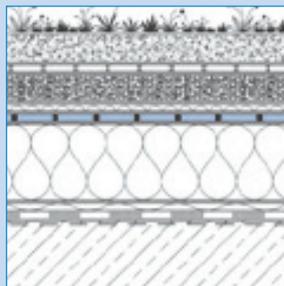
### Quality proven by complexity

Individual **NOVOPROOF® DA-P 15** membranes can be joined to each other homogeneously using the Thermofast® seam welding technology. A tight trough with openings and connections is formed for the green roof which is safe for decades.



Technical data\*

Total thickness:	1.5 mm (2 mm available on request)
Size:	object-related
Colour:	black
Ozone resistance:	yes, to DIN EN 13956
UV exposure:	stable
Exposure to bitumen:	fulfilled to DIN EN 13956
Root-resistant:	yes
Tensile strength:	≥ 8.5 N/mm <sup>2</sup> to DIN EN 13956
Elongation:	≥ 350 %
Reaction to fire:	class E fulfilled
Folding at -30 °C:	fulfilled, no cracks



Landscape green roof  
Substrate layer earth  
Fleece filter sheet  
Drainage protection sheet  
Protective separation sheet  
**NOVOPROOF® DA-P 15**  
Heat insulation layer  
Vapour retarder aluminium foil  
Bituminous coating partially adhered  
Concrete (glazed)  
Reinforced concrete

**NOVOPROOF® DA-P 15**  
Loose-laid with landscape green roof

\* Material data subject to slight production variations

# NOVOPROOF® TE

## System sheeting, naturally ecological and durable...

**NOVOPROOF® TE** is the system membrane used for the construction of large-area facilities for the specific retention of water. These include technical facilities such as water treatment basins, fire-extinguishing water reservoirs and ecological systems.



The exposed sheet edges of water reservoirs on golf courses withstand repeated impacts from golf balls

### Always the right basis

As the technical market leader in the use of EPDM rubber, DURAPROOF has in **NOVOPROOF® TE** created a material which is completely impermeable to water, and without any mechanical damage will retain its integrity permanently.

This type of EPDM rubber remains elastic and flexible under all imaginable conditions. Even the folding test at the rather unlikely temperature for our latitudes of  $-30\text{ }^{\circ}\text{C}$  produces no cracks at all in the material. **NOVOPROOF® TE** sheets can still be laid under heavy frost conditions, and even ozone, which is a long-term problem for many conventional types of pond sheeting, has no harmful effect on **NOVOPROOF® TE**. The material is also classified in cracking level 0 in this respect. The natural elasticity of **NOVOPROOF® TE** is also maintained over temperatures from  $-40\text{ }^{\circ}\text{C}$  to  $+120\text{ }^{\circ}\text{C}$  [ $-40\text{ }^{\circ}\text{F}$  to  $+248\text{ }^{\circ}\text{F}$ ].

### A permanent joint

Just as important as a technically perfect material is the welding technology used to turn the strips into membranes. This is why we have developed the Thermofast® welding technology: without the use of adhesives or solvents, the overlapping sheets are welded together element by element to form large, waterproof sealing membranes. According to the requirements in question, the membranes are then rolled up at the works onto a cardboard core, so that they can then be unrolled on site from a specific point over the prepared subsurface.

### Reliable sealing of penetrations

The Thermofast® welding technology is also used for the integration of formed components into the system, for example at points where the membrane has to be penetrated by overflow or other pipes. Here, prefabricated, formed components are used to ensure complete integrity from the very beginning.



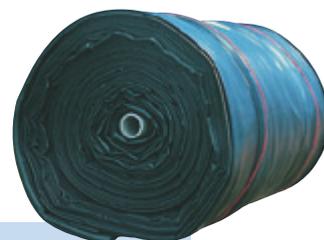
**... frost-resistant, non-toxic  
and easy to install.**



**Good for nature.  
We insist on nothing less.**

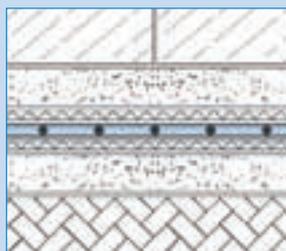
It almost goes without saying that **NOVOPROOF® TE** is resistant to algae and microbes, as well as being root-resistant and will not release any toxic substances that even in the long term could harm fish, frogs or microorganisms.

**NOVOPROOF® TE** is a good choice for the sealing of pools, ponds, water-gardens and water reservoirs.



Technical data\*

Total thickness:	1.5 mm (other thicknesses available on request)
Size:	object-related
Ozone resistance:	yes, to DIN EN 13956
UV exposure:	stable
Root-resistant:	yes
Tensile strength:	≥ 8.5 N/mm <sup>2</sup> to DIN EN 13956
Elongation:	≥ 350 %
Folding at -30 °C:	fulfilled, no cracks



Composite masonry  
Protective sand layer, approx. 5-10 cm  
Geo-textile approx. 400 g/m<sup>2</sup>  
**NOVOPROOF® TE**  
Geo-textile approx. 400 g/m<sup>2</sup>  
Supporting subsurface (0-2 mm)  
Subsurface (proctor density 95 %)

**NOVOPROOF® TE**  
as sealing sheet in a  
retardation basin



\* Material data subject to slight production variations

***duraproof***

*Technologies for durable solutions*

**DURAPROOF technologies GmbH**

Eisenbahnstraße 24  
66687 Wadern-Büschfeld  
Germany  
Phone +49 6874 69-454  
Fax +49 6874 69-505  
E-Mail [info@duraproof.de](mailto:info@duraproof.de)

[www.duraproof.de](http://www.duraproof.de)