
OMV
WELCOME
TO THE FUTURE
OF BITUMEN.
PAVING THE WAY FOR INNOVATION.

Contents

About OMV

The best partner for your business

As a global energy and chemicals company, we intend to become a leading provider of sustainable fuels, chemicals and materials by 2030 with a focus on circular economy solutions – and deliver on our pledge to reach net zero by 2050.

How we do it

WORKING TOGETHER

Within our portfolio of companies and with partners across the value chain and beyond

ADVANCING CIRCULAR

With a focus on decarbonization and transition towards sustainability

STIMULATING TRANSFORMATION

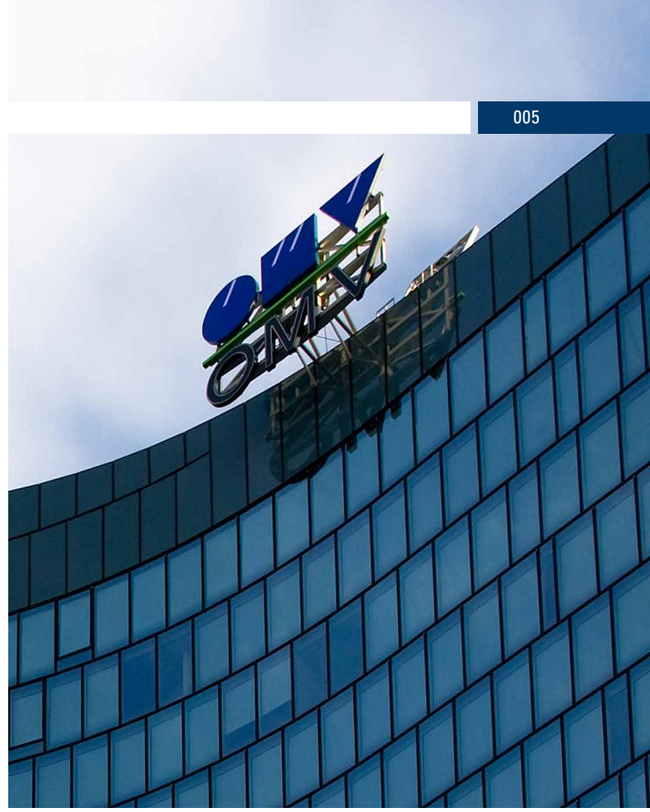
To drive for innovation and ongoing improvement, for our partners, our industry and ourselves

Our strategy 2030

Sustainability and circular economy solutions are at the core of our strategy. Our goal is to be climate neutral by 2050 at the latest.

Re-inventing Essentials for Sustainable Living

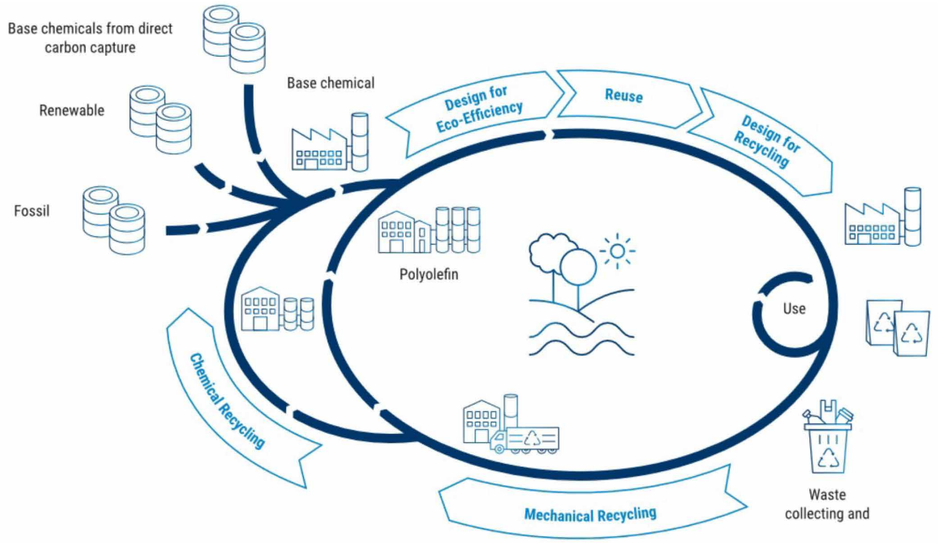
Based on our corporate purpose "Re-inventing Essentials for Sustainable Living" we aim to become a global leader in circular economy solutions. Turning the value chain from a linear to a circular model will be one of our priorities in making OMV a sustainable business. Thanks to our unique integration between recycling, refinery, and petrochemical operations, we are engaging in all steps along this circle. State-of-the-art technology expertise and our patented technologies in both chemical recycling and standard and advanced mechanical recycling will help us to minimize pollution and waste, reuse materials, shift to low-carbon energy, keep carbon in the circle, and regenerate our living environment.



Quick facts OMV Group

- Austria's largest listed industrial company
- 22,400 employees
- Active in more than 35 countries worldwide
- 3 business areas:
  - Chemicals & Materials
  - Refining & Marketing
  - Exploration & Production

Our Value Circle



Bitumen has a very low carbon footprint (app. 160 CO_2eq*) in comparison to other petroleum products (e.g., fuels, polymers …) and construction materials (e.g., cement) and the product itself accounts only for Scope 1 emissions. Nevertheless, with RC products like our Starfalt® PmB RC product, we are supporting our customer that they can re-use old asphalt pavements to build new roads with an extraordinarily high and long last quality. So that product fits very well to our strategy and supports the idea of the Circular Economy.

* Eurobitumen LCI Report 2022 (https://www.eurobitume.eu/footer/news/news-detail/update-supplement-to-the-eurobitume-lci-report-available/)

The best solutions for your individual requirements

We combine carefully selected components with specially developed formulas to develop the highest quality bitumen. We rely on solid experience as well as our outstanding staff and excellent research partners. This allows us to offer a broad range of products for all applications and individual requirements.

High Performance Bitumen
We process crude oils from all over the world in our own refinery. Then we refine the best using gentle distillation into premium quality bitumen to meet the highest requirements.

Safe and reliable
You benefit from our growth and position as one of the strongest oil and gas businesses in the Central European area. Our network includes facilities in Central, Eastern and Southern Europe as well as a refinery and two PmB plants. The scale of our presence means you will always be well looked after.

The power of our responsibility
Through continuous research and development we are able to offer strong, effective solutions for your specific challenges for the application of both bitumen and asphalt mixture. The following five solid promises are the fundamental basis for all our actions and communications:

- Quality products
- Industry professionals
- Easy to do business with
- Supply security
- Competitive conditions

Security and environment
All of our OMV High Performance Bitumen are environmentally harmless and as such not subject to security labelling (see our Safety Data Sheet). All asphalt mixtures made with OMV High Performance Bitumen are fully recyclable and reusable.

Transport and application
We deliver our OMV High Performance Bitumen in tank trucks subject to ADR* regulations. When applying the bitumen, please always ensure the appropriate protective equipment is used and abide by Eurobitume recommendations regarding the safe loading, the transport and the handling of bitumen.
More information on www.eurobitume.eu

* European Agreement regarding the International Carriage of Dangerous Goods by Road

Quality you can rely on

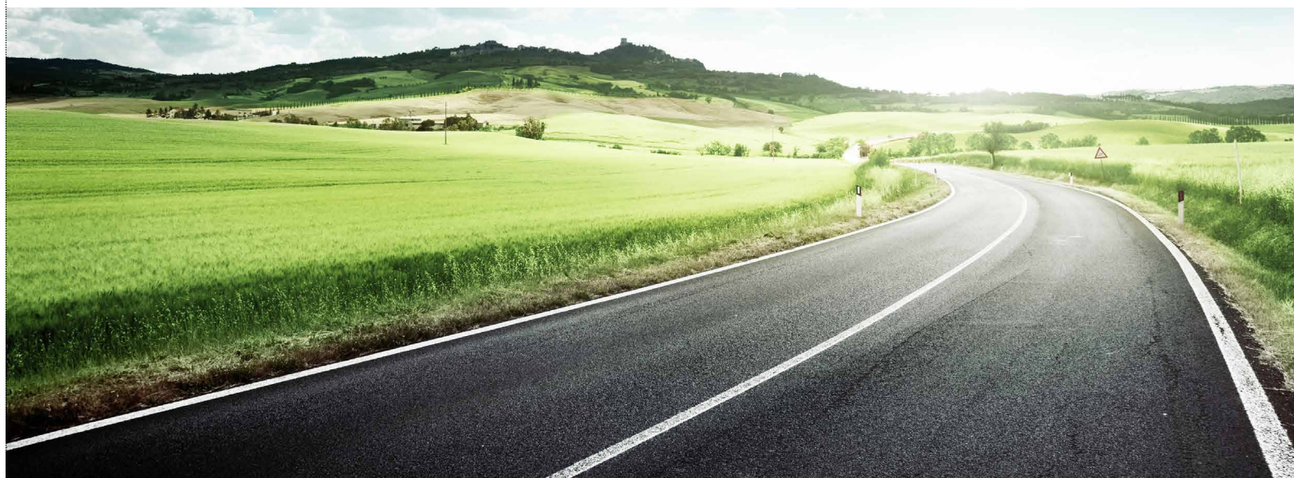
Bitumen - a petroleum derivate - has been used in its form of natural asphalt in road construction and other applications since more than 4,000 years.
Today Bitumen is a highly complex mix of specialised components processed from crude oil. It must fulfil highest requirements to be used as a modern construction material in a more and more challenging environment.
To ensure highest quality we extract our natural bitumen only from careful well selected crude oils.

A history of 35 years
Since more than 35 years OMV provides polymer modified bitumen – OMV Starfalt® PmB for heavy duty applications to our customers. Long-standing positive experiences made OMV Starfalt® PmB a success story. More than 2.25 mio tons used in over 12 countries prove OMV Starfalt® PmB's extraordinary quality.

We strive for improvement
Science, technology, partnership and product support are the key for continuous improvement.

- Our product development specialists ensure optimized products for each application.
- Using sophisticated analysis technology, continuous quality control, and in cooperation with outstanding research partners, we can guarantee consistently high quality standards across the entire range of OMV High Performance Bitumen products.
- We can offer help, advice and technical testing services. Our staff, with its specialist expertise and experience, can also support your entire project team when it comes to performance related product selection.
- We have an open ear for you and your challenges to provide you with the best product for the best solution.

We care
Sustainability and circular economy are very important for OMV and here as well in the product category bitumen and modified bitumen. We have and we will develop products with a lower CO_2 footprint as well as products which are supporting our customers to reduce the CO_2 footprint of asphalt roads which are sustainable, long lasting and which can be reused again.



Our loading facilities

1 OMV Schwechat Refinery

Mannswörther Straße 28
2320 Schwechat
Austria

- OMV Paving Grade Bitumen
- OMV Industrial Bitumen
- OMV Starfalt® PmB
- OMV Starfalt® PmB RC

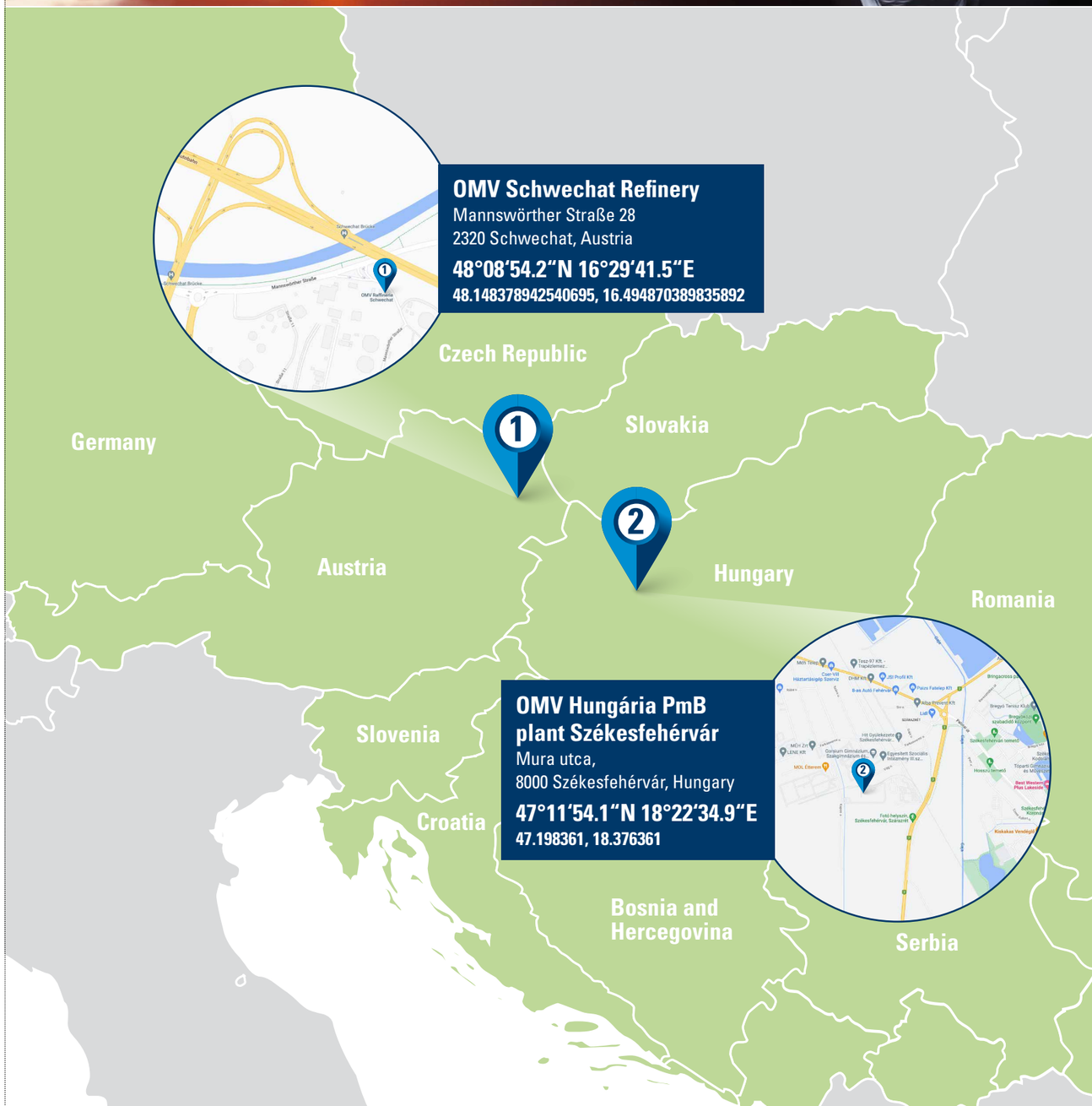
Opening times:
Sun 10:00 pm – Fri 3:00 pm

2 OMV Hungária PmB plant Székesfehérvár

Mura utca
8000 Székesfehérvár
Hungary

- OMV Paving Grade Bitumen
- OMV Hard Paving Grade Bitumen
- OMV Industrial Bitumen
- OMV Starfalt® PmB
- OMV Starfalt® PmB RC
- OMV Warm Mix Bitumen
- OMV Starfalt® PmB High Modified
- OMV Starfalt® PmB Fuel Resistant
- OMV Bitumen Plus

Opening times:
Mon – Fri 5:30 am – 2:00 pm
or open longer if prebooked
Saturday – only if prebooked and confirmed



OMV Paving Grade Bitumen

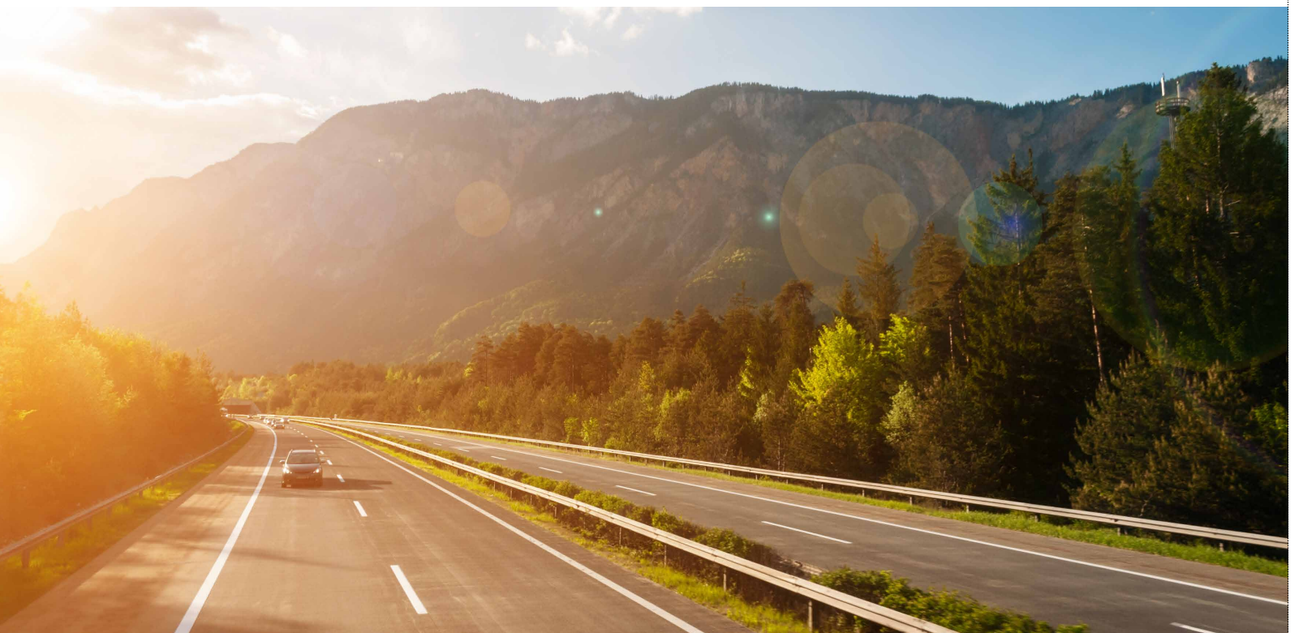
Bitumen secures vital road networks all over the world. Since it is used in asphalt production for road pavements, quality of bitumen is of great importance when it comes to the quality of the road itself. Our OMV Paving Grade Bitumen is distilled from the best crude oils and perfectly meets our customers´ needs. Therefore, with our OMV Paving Grade Bitumen, which is ideally suited for use in a wide variety of types of asphalt mixtures (also for foamed bitumen), in various industrial applications, emulsions and for cold recycling in place (foamed bitumen stabilization), you will have a guaranteed product of the best quality.

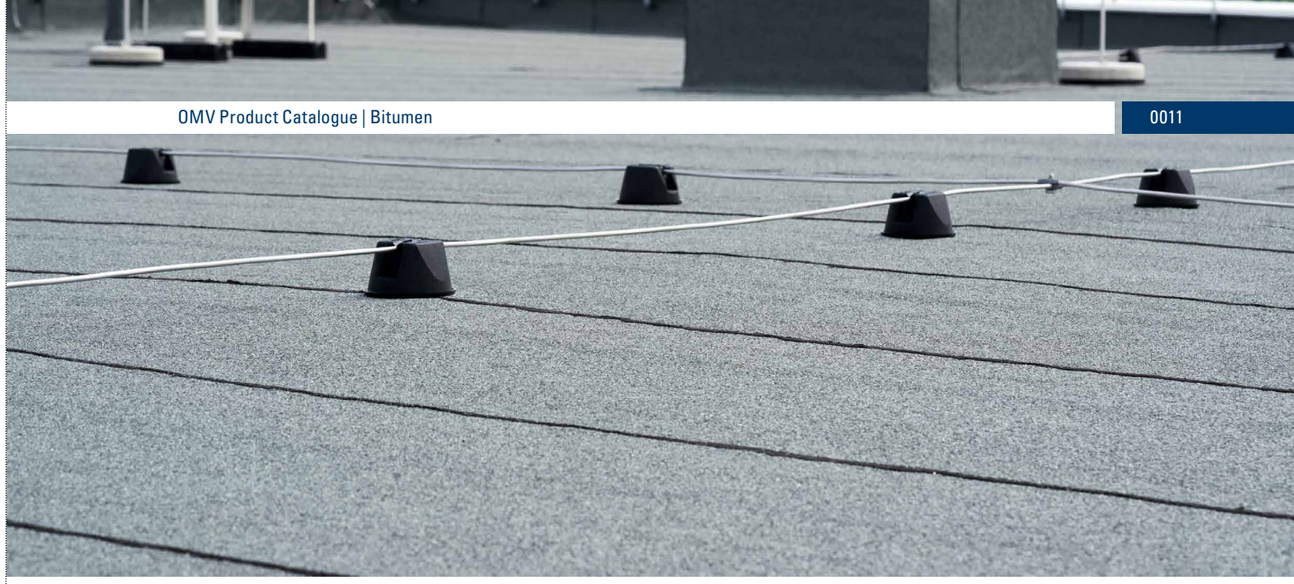
OMV Paving Grade Bitumen provides exceptional road building performance and exceeds the requirements of EN 12591 for a range of varieties: 20/30, 30/45, 35/50, 40/60, 50/70, 70/100, 100/150 and 160/220.

In addition to its importance in road construction, OMV Bitumen 50/70, 70/100 and 160/220 is particularly recommended for the production of high-quality bituminous roofing membranes and bitumen emulsions due to a constant quality characterizes by processing a defined amount of highly naphthenic Austrian crude. By supplying consistently high quality, with constant product parameters and the ideal delivery temperature throughout the year, we can guarantee smooth production of bituminous roofing membranes and bitumen emulsion products.

Storage and handling
During storage in the asphalt mixing plant and depending on the penetration class, please do not exceed a maximum temperature of 200 °C for 20/30 or a maximum of 165 °C for 160/220 (please also see EN 13108-1, table 30). For longer storage we recommend lowering the temperature to about 120 °C.

Reheating should be as gentle as possible with a maximum of 15 °C per day to avoid thermal damage. For vertical bitumen storage tanks we recommend indirect heating devices to prevent local overheating. Please also ensure that as little air/oxygen as possible reaches the bitumen when it is being stored. No other actions are required when using OMV Paving Grade Bitumen in asphalt mixes.





Areas of application

OMV Paving Grade Bitumen is characterized by its very broad range of uses. This means it can be found in a wide variety of types of asphalt mixtures and in various industrial applications.

We recommend our paving grade bitumen for the following applications

ASPHALT MIXTURE TYPES	20/30	30/45	35/50	40/60	50/70	70/100	100/150	160/220
Base courses (AC base)		x	x	x	x	x	x	x
Surface courses (AC surf)				x	x	x	x	x
Mastic asphalt (MA)	x	x	x					
Industrial uses								
Bitumen emulsions					x	x	x	x
Bitumen roofing membranes						x	x	x

Product properties

OMV Paving Grade Bitumen in accordance with EN 12591

TYPE OF BINDER			20/30	30/45	35/50	40/60	50/70	70/100	100/150	160/220
REQUIREMENT/ CHARACTERISTIC	TEST METHOD	UNIT	RANGE OF VALUES							
Penetration at 25 °C	EN 1426	x 0.1 mm	20 – 30	30 – 45	35 – 50	40 – 60	50 – 70	70 – 100	100 – 150	160 – 220
Softening point	EN 1427	°C	55 – 63	52 – 60	50 – 58	48 – 56	46 – 54	43 – 51	39 – 47	35 – 43
Mass change at 163 °C	EN 12607-1	%	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.8	≤ 0.8	≤ 1.0
Retained penetration	EN 1426	%	≥ 55	≥ 53	≥ 53	≥ 50	≥ 50	≥ 46	≥ 43	≥ 37
Increase in softening point	EN 1427	°C	≤ 8	≤ 8	≤ 8	≤ 9	≤ 9	≤ 9	≤ 10	≤ 11
Flash point	EN ISO 2592	°C	≥ 240	≥ 240	≥ 240	≥ 230	≥ 230	≥ 230	≥ 230	≥ 220
Fraass breaking point	EN 12593	°C	≤ – 5	≤ – 5	≤ – 5	≤ – 7	≤ – 8	≤ – 10	≤ – 12	≤ – 15
Solubility	EN 12593	% (m/m)	≥ 99.0	≥ 99.0	≥ 99.0	≥ 99.0	≥ 99.0	≥ 99.0	≥ 99.0	≥ 99.0
Dynamic viscosity at 60 °C	EN 12596	Pa.s	≥ 440	≥ 260	≥ 225	≥ 175	≥ 145	≥ 90	≥ 55	≥ 30
Kinematic viscosity at 135 °C	EN 12595	mm²/s	≥ 530	≥ 400	≥ 370	≥ 325	≥ 295	≥ 230	≥ 175	≥ 135

OMV Hard Paving Grade Bitumen and **OMV Industrial Bitumen**

We produce both Hard Paving Grade Bitumen OMV Bitumen 10/20 (EN 13924-1, CE marking required) and bitumen for industrial applications OMV Bitumen 90/10 (EN 13304, CE marking not applicable) and OMV Bitumen H (EN 13305, CE marking not applicable).

OMV Biturox®
Biturox is our world renowned and patented method of producing Industrial Bitumen. Our method has particularly low emissions and produces industrial bitumen with outstanding properties.

Best preconditions
Our OMV Bitumen 10/20, Hard Paving Grade Bitumen, with its high rigidity and low penetration is ideally suited for the production of mastic asphalt.
Our Industrial Bitumen, like the OMV Bitumen 90/10, has a high penetration index and an optimum low temperature performance, both are important quality characteristics to produce roofing and waterproofing membranes as well as paints and mastic asphalt. Our OMV Bitumen H has a penetration index ≤ 2,0 (air-rectified bitumen) with a wide range of applications like flooring (screed material), varnishes, roofing and mastic.

Product properties

OMV Hard Paving Grade Bitumen – OMV Bitumen 10/20 in accordance with EN 13924-1

TYPE OF BINDER				10/20
REQUIREMENT/ CHARACTERISTIC	TEST METHOD	UNIT	CLASS	RANGE OF VALUES
Penetration at 25 °C	EN 1426	x 0.1 mm	3	10 – 20
Softening point	EN 1427	°C	3	68 – 78
Mass change at 163 °C	EN 12607-1	%	2	≤ 0.5
Retained penetration	EN 1426	%	2	≥ 55
Increase in softening point	EN 1427	°C	3	≤ 10
Flash point	EN ISO 2592	°C	3	≥ 245
Fraass breaking point	EN 12593	°C	3	≤ 3
Solubility	EN 12593	% (m/m)	2	≥ 99

OMV Industrial Bitumen – OMV Bitumen 90/10 in accordance with EN 13304

TYPE OF BINDER			90/10
REQUIREMENT/ CHARACTERISTIC	TEST METHOD	UNIT	RANGE OF VALUES
Penetration at 25 °C	EN 1426	x 0.1 mm	5 – 15
Softening point	EN 1427	°C	85 – 95
Mass change at 163 °C	EN 13303	%	≤ 0.5
Flash point	EN ISO 2592	°C	≥ 250
Solubility	EN 12593	% (m/m)	≥ 99

OMV Industrial Bitumen – OMV Bitumen H in accordance with EN 13305

TYPE OF BINDER			H
REQUIREMENT/ CHARACTERISTIC	TEST METHOD	UNIT	RANGE OF VALUES
Penetration at 25 °C	EN 1426	x 0.1 mm	10 – 20
Softening point	EN 1427	°C	70 – 80
Penetration index	EN 12591	-	≤ 2.0
Flash point	EN ISO 2592	°C	≥ 250
Solubility	EN 12593	% (m/m)	≥ 99

OMV Premium Products

OMV has a wide range of premium bitumen products and thus covers many of the most challenging and wide-ranging areas of application in road and traffic area construction. The range extends from classic Polymer modified Bitumen (PmB) to binders to produce Warm Mix Asphalt (WMA) and to high quality grade that support the reuse of reclaimed asphalt pavements (RAP) and much more.

OMV Starfalt® PmB

Some roads have more challenging traffic or weather conditions than others where conventional paving grade bitumen may not be able to deal efficiently with those challenges. That is why OMV offers OMV Starfalt® PmB (Polymer modified Bitumen). **Our Starfalt® PmB is an elastomer modified bitumen suitable for the paving of heavy load and high traffic roads as well as other high-stress surfaces.**

The benefits of OMV Starfalt® PmB

With its exceptional viscoelastic and adhesion behavior, high regeneration capacity, resistance to permanent deformation under extreme temperatures and excellent long-term behavior, it is intended to improve the durability of asphalt roads and save the costs of early and continuous maintenance.

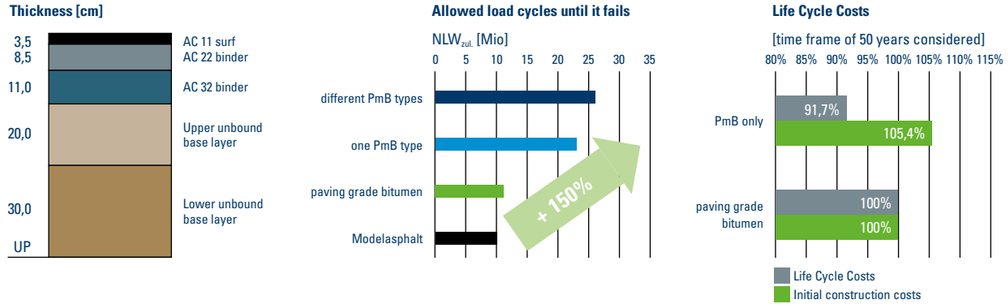
To produce our ready-to-use, polymermodified bitumen OMV Starfalt® PmB, we use special formulations developed in our laboratory. We have more than 35 years of experience in PmB production. Our premium bitumen is used in more than 12 countries in Europe and sold more than 2.25 million tons of different PmB types, which speaks for the product itself.

And an important factor is that we offer numerous varieties which satisfy the requirements of EN 14023, all are CE marked and they suit a wide range of applications.

Based on experience and the Austrian pavement design method it can be shown that an asphalt pavement load class 10 (10 mio load cycles) produced with PmB only can resist 150% more load cycles than a pavement built with paving grade bitumen (see graphs). Beside this a life cycle cost analysis (LCCA) showed that indeed the initial costs are higher than for roads built with paving grade bitumen, but the life cycle costs are with more than 8% significantly lower, and it pays off very quickly. Another possibility would be to reduce the layer thickness by 5-10%.

Besides the costs it has as well a positive impact from an environmental perspective. Building a highly trafficked road with PmB is as sustainable road construction which last significantly longer and has less maintenance during the lifetime, which reduces the CO_2 footprint of such a road.

Construction type AS1-LC10



Our OMV Starfalt® PmB is not only used for motorway or express way construction. This excellent binder proofs its quality already many times for the construction of airfields like taxiways and runways. Started in 1990 with the reconstruction of the runway of the military airfield in Zeltweg it continues the years after. Since 2010 our PmB has been used during rehabilitation projects for a significant number of airports:

- Otopeni Airport
- Iasi Airport
- Târgu Mures Mures Airport
- Baia Mare Airport
- Varna Airport
- Dubrovnik Airport
- Belgrade Airport
- Ljubljana Airport (OMV Starfalt® PmB 45/80 FR)
- Vienna Airport (rehabilitation work and as PmB NV)

Storage and handling
During storage in the asphalt mixing plant please do not exceed a maximum temperature of 180 °C. Depending on the storage process, OMV Starfalt® PmB is easily stored for up to 14 days. For longer storage we recommend lowering the temperature to about 130 °C. Reheating should be as gentle as possible with a maximum of 15 °C per day to avoid thermal damage. For vertical bitumen storage tanks, we recommend indirect heating devices to prevent local overheating. Please also ensure that as little air/oxygen as possible reaches the bitumen when it is being stored.
Asphalt mixes using a polymer modified bitumen can be handled using traditional equipment. No other actions are required when using OMV Starfalt® PmB for asphalt mixes compared to mixes with paving grade bitumen.

Product properties

OMV Starfalt® PmB in accordance with EN 14023

TYPE OF BINDER			10/40-65	25/55-55	25/55-65	45/80-55	45/80-65	45/80-75	45/80-80
REQUIREMENT/ CHARACTERISTIC	TEST METHOD	UNIT	RANGE OF VALUES						
Penetration at 25 °C	EN 1426	x 0.1 mm	10 – 40	25 – 55	25 – 55	45 – 80	45 – 80	45 – 80	45 – 80
Softening point	EN 1427	°C	≥ 65	≥ 55	≥ 65	≥ 55	≥ 65	≥ 75	≥ 80
Force ductility	EN 13589	J/cm²	≥2(15°C)	≥2(10°C)	≥3(10°C)	≥2(5°C)	≥3(5°C)	≥3(5°C)	≥3(5°C)
Mass change at 163 °C	EN 12607-1	%	≤ 0.3	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.3	≤ 0.5
Retained penetration	EN 1426	%	≥ 60	≥ 60	≥ 60	≥ 60	≥ 60	≥ 60	≥ 60
Increase in softening point	EN 1427	°C	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
Flash point	EN ISO 2592	°C	≥ 250	≥ 235	≥ 250	≥ 235	≥ 250	≥ 250	≥ 250
Fraass breaking point	EN 12593	°C	≤ – 10	≤ – 10	≤ – 12	≤ – 15	≤ – 18	≤ – 18	≤ – 18
Elastic recovery (25 °C)	EN 13398	%	≥ 60	≥ 50	≥ 80	≥ 50	≥ 80	≥ 80	≥ 80
Storage stability: difference in softening point	EN 13399 EN 1427	°C	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Elastic recovery (25 °C) acc. to EN 12607-1	EN 13398	%	≥ 50	≥ 50	≥ 60	≥ 50	≥ 70	≥ 70	≥ 70

Areas of application

OMV Starfalt® PmB can be used for many types of asphalt applications.
Your benefits:

- Increased service life
- High level of stability
- Exceptional deformation stability
- High resistance to cracking caused by low temperatures and fatigue

We recommend OMV Starfalt® PmB for the production of the following asphalt mixtures

ASPHALT MIXTURE TYPES	10/40-65	25/55-55	25/55-65	45/80-55	45/80-65	45/80-75	45/80-80
High modulus asphalt mixtures for binder courses (AC binder)	x	x	x	x	x	x	x
High modulus asphalt mixtures for surface courses (AC surf)		x	x	x	x	x	x
Stone mastic asphalt (SMA)		x	x	x	x	x	x
Porous asphalt (PA)					x	x	x
Mastic asphalt (MA)	x	x	x				
Asphalt concrete for very thin layers (BBTM)				x	x	x	x

OMV Starfalt® PmB RC

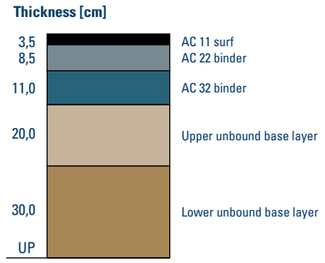
OMV Starfalt® PmB RC is designed for asphalt production using reclaimed asphalt pavements (RAP).

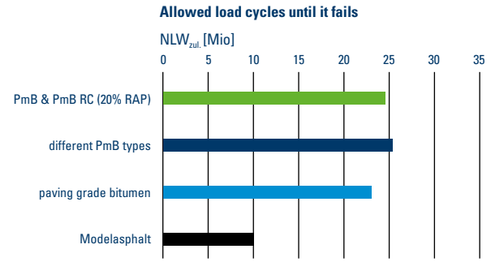
OMV Starfalt® PmB RC is part of the approved product portfolio of polymer modified binders within the OMV Starfalt® product group. OMV Starfalt® PmB is a ready to use, elastomer modified bitumen, specifically manufactured using OMV laboratory developed formulas in our own facilities.

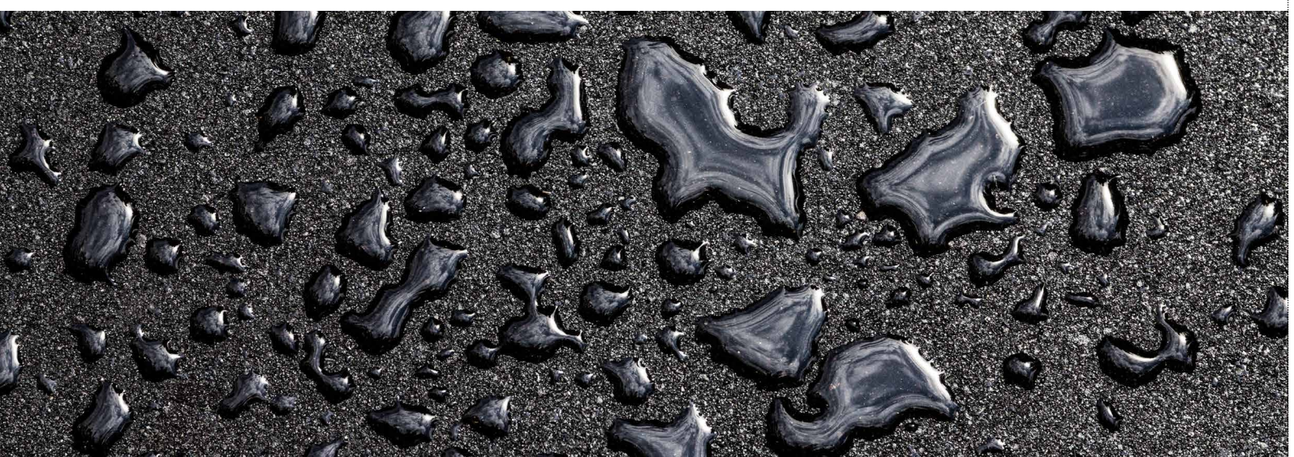
Based on several years of experience in Germany we improved and upgraded the product for the first trial in 2010 in Austria. This test track was continuous observe and monitored. Afterwards it was very quickly introduced as a perfect binder for the Austrian highway and express network when the reuse of RAP was required, which was the initial idea for this product development. Since years it is the proven binder for this application, which guarantees a high quality and long-lasting asphalt road construction (see graph below), which is our part for the circular economic in the construction business.
In 2015 the product was introduced on the Czech Republic and in 2016 on the Slovenian market. The test tracks in Czech Republic are continuously monitored and the quality of the binder is checked regularly. So far an excellent behaviour could have been observed which is supporting the experience in Austria.

The second product OMV Bitumen 100/150 RC was developed for the same purpose, but for national or country roads with less heavy traffic.
Both products are a factory produced, ready to use, elastomer modified binder specifically for asphalt recycling. By cold adding of reclaimed asphalt up to 30% and by warm adding (e.g. parallel drum) higher percentages are possible.

Construction type AS1-LC10







High performance
Using OMV Starfalt® PmB RC, aged bitumen is renewed within the reclaimed asphalt.
This means you can:

- Increase the penetration
- Lower softening point ring and ball
- Lower the Fraass breaking point
- Recover or refresh the elasticity of your asphalt mixture

Once the reclaimed asphalt is sorted for quality and analyzed, with the admixture of aggregates and the use of OMV Starfalt® PmB RC, high quality asphalt mixtures can be produced with excellent fatigue and stability properties.

Vision
Using a parallel drum for warm recycling, you can add significantly more than 30% reclaimed asphalt pavement with OMV Starfalt® PmB RC and in specific case, if the RAP has a proper quality even up to 40-50%. Asphalt mixtures produced in this way meet the requirements for high modulus binder courses. This means you can produce effective and sustainable asphalt pavements with OMV Starfalt® PmB RC which also:

- Conserve resources (bitumen and aggregate)
- Reduce volumes of landfill (reclaimed asphalt)
- Help preserve natural habitats (for example with less quarries)

Product properties

OMV Starfalt® PmB RC in accordance with EN 14023

TYPE OF BINDER			45/80 RC	100/150 RC
REQUIREMENT/ CHARACTERISTIC	TEST METHOD	UNIT	RANGE OF VALUES	
Penetration at 25 °C	EN 1426	x 0.1 mm	45 – 80	90 – 150
Softening point	EN 1427	°C	≥ 70	≥ 40
Force ductility	EN 13589	J/cm²	≥ 3 (5°C)	≥ 1 (5°C)
Mass change at 163 °C	EN 12607-1	%	≤ 0.5	≤ 0.5
Retained penetration	EN 1426	%	≥ 60	≥ 50
Increase in softening point	EN 1427	°C	≤ 8	≤ 10
Flash point	EN ISO 2592	°C	≥ 250	≥ 235
Fraass breaking point	EN 12593	°C	≤ – 18	≤ – 18
Elastic recovery (25°C)	EN 13398	%	≥ 80	≥ 50
Storage stability: difference in softening point	EN 13399 EN 1427	°C	≤ 5	≤ 5
Elastic recovery (25 °C) acc. to EN 12607-1	EN 13398	%	≥ 70	≥ 50

OMV Warm Mix Bitumen

The sustainability benefits of warm mix asphalt (WMA) rather than hot are well known – energy savings, lower emissions, less aging of the binder and improved durability. Asphalt production is energy intensive. Less energy is required when producing asphalt at lower temperatures and emissions during production and paving are also reduced. Our contribution to this is OMV's low-temperature technique with two different solutions: "OMV NV (WMA)" and "OMV LE (WMA)".

OMV NV (WMA)
OMV NV (WMA) is a factory-made, ready to use, modified binder for paving of asphalt at lower temperatures. It has been specially developed for roads and other heavy traffic areas where the adjustment of other binder properties is of advantage too.

This low-viscosity bitumen is characterized by lower viscosity above the 100 °C temperature range, and higher stiffness in the 80 °C range and below. Asphalt mixtures with OMV NV (WMA) can be installed with a lower temperature (about 30 °C). The higher rigidity offers you the possibility of opening your construction site to traffic much earlier.

OMV NV (WMA) is available in all offered paving grade and polymer modified bitumen types.

OMV NV (WMA) is characterized by:

- Increased plasticity range
- Excellent resistance to permanent deformation
- Reduced processing viscosity

OMV NV (WMA) allows you to:

- Reduce the mixing temperature
- Decrease CO_2 emissions during asphalt mixing
- Pave at lower temperatures
- Release for traffic earlier
- Decrease emissions of aerosols and fumes

OMV LE (WMA)
OMV LE (WMA) stands for "Low Energy" with its reduced viscosity above 100 °C. Asphalt mixtures with this binder can be produced and paved with a lower temperature (about 30 °C). This kind of modification does not change significantly other properties of the binder.

OMV LE (WMA) is available in all offered paving grade and polymer modified bitumen types.

OMV LE (WMA) allows you to:

- Reduce the mixing temperature
- Decrease CO_2 emissions during asphalt mixing
- Pave at lower temperatures
- Reduced processing viscosity
- Decrease emissions of aerosols and fumes

Care and control
The consistently high quality is based on the careful selection of raw materials balanced with careful processing. Constant quality control and comprehensive additional tests ensure the smooth usage of all OMV NV (WMA) and LE (WMA) products in the asphalt mixing plant.

Storage and handling
During storage in the asphalt mixing plant please do not exceed a maximum temperature of 180 °C. Depending on the way of storing, OMV NV (WMA) and LE (WMA) are easily stored for up to 14 days. For prolonged storage we recommend a lowering of the temperature to about 120 °C. Reheating should be as gentle as possible with a maximum of 15 °C per day to avoid thermal damage. For vertical bitumen storage tanks we recommend indirect heating devices, to prevent local overheating. Please also ensure that as little air / oxygen as possible reaches the bitumen when it is being stored.

Asphalt mixtures using OMV NV (WMA) and LE (WMA) can be handled using traditional equipment. No other actions are required when using OMV NV (WMA) and LE (WMA) for asphalt mixes compared to mixes with paving grade bitumen. The advantage of this product is that you can easily handle and lay this mix at temperatures up to 30 °C lower than normal.

Our WMA products enable at regular production temperatures longer transport distances for the asphalt mixture and allows road construction to be carried out in unfavourable weather conditions.

OMV Starfalt® PmB 45/80-80 (HiM)

OMV Starfalt® PmB 45/80-80 (HiM) stands for “High Modified” bitumen and is part of polymer modified binders within the OMV Starfalt® product group. It is a binder designed for all asphalt courses and terms of application of perpetual pavements. It significantly improves the structural pavement resistance to fatigue, if it is used for the base course, and permanent deformation and cracking. Besides this it leads an increased service life of the whole pavement.

High Modified performance

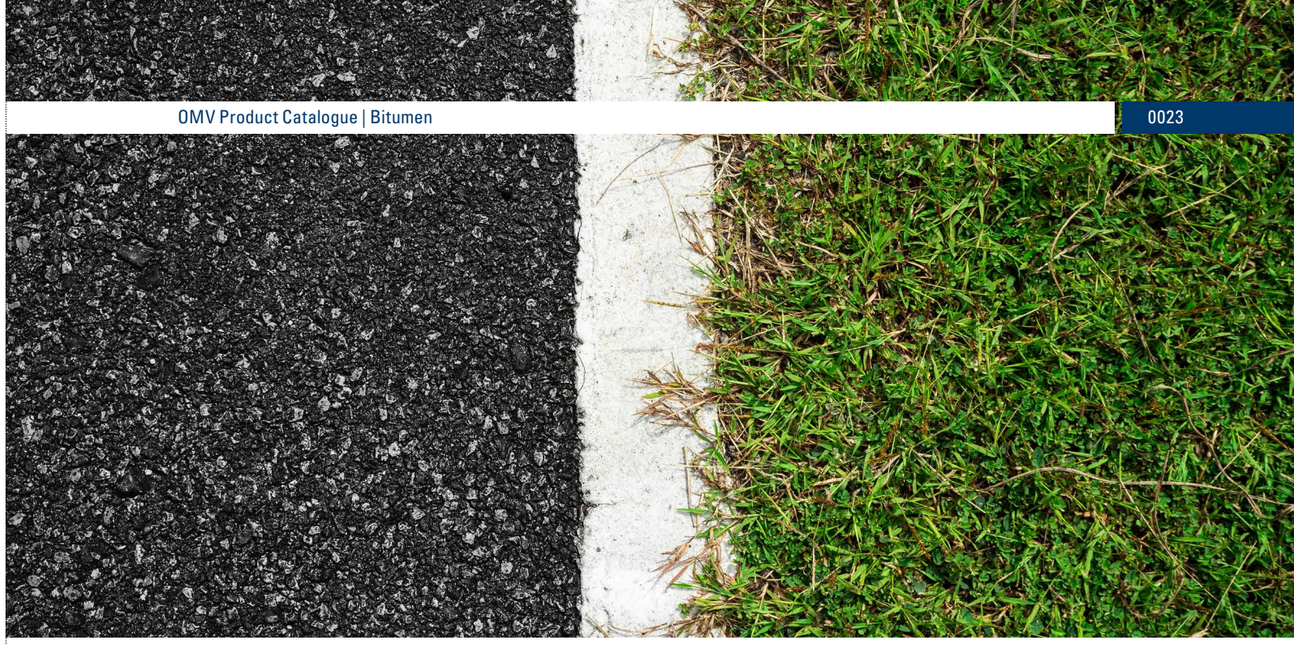
Using OMV Starfalt® PmB 45/80-80 HiM for your asphalt production means to you:

- Improved pavement durability
- Improved fatigue resistance
- Improved resistance to permanent deformation (rutting)
- Improved crack resistance caused by thermal stress.
- Reduction of maintenance costs
- Cost reduction in the long run (increased service life)
- Possible reduction of pavement thickness

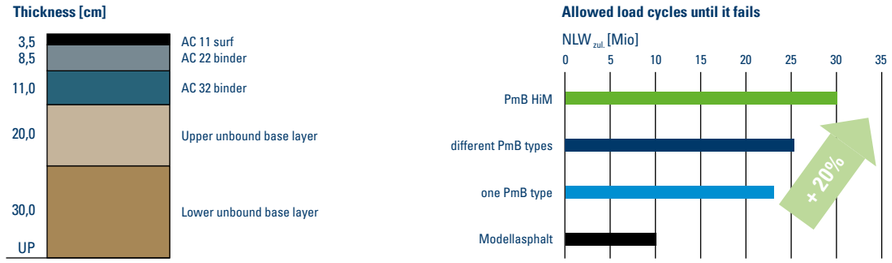
Our HiM is manufactured by blending selected high performing polymers with our paving grade bitumen which is made with the optimum types of crude oils and a conserving production process.

Vision
Our concept is long-lasting asphalt pavements. By using the HiM it is possible to achieve perpetual pavement with durability for many decades. The results in calculation of the mechanistic asphalt pavement design confirmed the superior performance of the tested HiM and we could prove the positive influence on the paved courses. Important for the usage is the fact that the workability and compactability of the asphalt stays the same like a normal PmB.

Benefits
On the one hand, the service life of the superstructure can be extended by 20% compared to a normal PmB by using of the Starfalt® PmB HiM, on the other hand is the possibility of reducing the layer thickness with a comparable conventional service life.



Construction type AS1-LC10



Product properties

OMV Starfalt® PmB 45/80-80 (HiM) in accordance with EN 14023

TYPE OF BINDER			45/80-80
REQUIREMENT/ CHARACTERISTIC	TEST METHOD	UNIT	RANGE OF VALUES
Penetration at 25 °C	EN 1426	x 0.1 mm	45 – 80
Softening point	EN 1427	°C	≥ 80
Force ductility	EN 13589	J/cm²	≥ 3 (10°C)
Mass change at 163 °C	EN 12607-1	%	≤ 0.5
Retained penetration	EN 1426	%	≥ 60
Increase in softening point	EN 1427	°C	≤ 8
Flash point	EN ISO 2592	°C	≥ 250
Fraass breaking point	EN 12593	°C	≤ – 18
Elastic recovery (25°C)	EN 13398	%	≥ 70
Storage stability: difference in softening point	EN 13399 EN 1427	°C	≤ 5
Elastic recovery (25 °C) acc. to EN 12607-1	EN 13398	%	≥ 70

OMV Starfalt® PmB FR

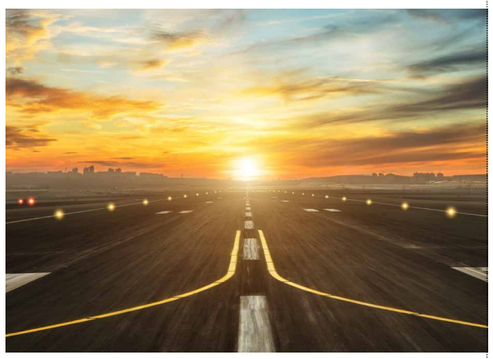
OMV Starfalt® PmB 45/80 FR (fuel resistant) is developed especially for surfaces at filling stations, airfields, fleet parking areas and any other areas where high fuel resistance is required.

OMV Starfalt® PmB 45/80 FR is characterized by:

- Highly resistant to fuel according to EN 12697-43
- High plasticity range
- Pronounced viscoelastic behavior
- High capacity for regeneration

We recommend OMV Starfalt® PmB 45/80 FR for the production of the following asphalt mixture:

- High modulus asphalt mixtures for surface courses (AC surf)
- Stone mastic asphalt (SMA)
- Asphalt concrete for very thin layers (BBTM)



Asphalt mixtures produced with OMV Starfalt® PmB 45/80 FR offer:

- Increased service life
- High level of stability
- Excellent deformation stability
- High resistance to cracking due to low temperature and fatigue
- High resistance to fuel according to EN 12697-43

Product properties

OMV Starfalt® PmB 45/80 FR in dependence to EN 14023

TYPE OF BINDER			45/80
REQUIREMENT/ CHARACTERISTIC	TEST METHOD	UNIT	RANGE OF VALUES
Penetration at 25 °C	EN 1426	x 0.1 mm	30 – 70
Softening point	EN 1427	°C	≥ 80
Mass change at 163 °C	EN 12607-1	%	≤ 0.5
Retained penetration	EN 1426	%	≥ 60
Increase in softening point	EN 1427	°C	≤ 8
Flash point	EN ISO 2592	°C	≥ 250
Fraass breaking point	EN 12593	°C	≤ – 18
Elastic recovery (25°C)	EN 13398	%	≥ 70
Storage stability: difference in softening point	EN 13399 EN 1427	°C	≤ 5
Elastic recovery (25 °C) acc. to EN 12607-1	EN 13398	%	≥ 70

OMV Bitumen Plus – Bitumen with exceptional adhesion

Good adhesion between bitumen and the aggregate is an essential prerequisite for high quality asphalt layers. However, some highly wear-resistant types of aggregate and occasionally locally sourced materials have less affinity with bitumen. Our solution is OMV Bitumen Plus. This is our factory-made, ready to use binder which is especially designed to ensure even critical aggregates achieve perfect adhesion between bitumen and stone. This significantly increases the efficiency of all your asphalt pavements.

OMV Bitumen Plus is produced in our plant in Szekesfehervar (Hungary). We supplement our many years proven bitumen grades (paving grade bitumen, polymer modified bitumen) with a highly effective and storage stable adhesive. OMV Bitumen Plus can be stored for up to a week at 165 °C with the effectiveness fully retained.

OMV Bitumen Plus means:

- Plus in longevity
- Plus in sustainability
- Plus in reliability
- Plus in cost efficiency
- Plus in durability
- Plus in safety

OMV Bitumen Plus is particularly suitable for regions with difficult conditions:

- Available for the majority of adhesive critical aggregates
- High level of rainfall
- High levels of heavy traffic

How adhesive agents work

Adhesive agents are surface-active and simply reduce surface tension. This creates an improved wettability (coverage) between the bitumen and the aggregate. The aggregate itself, whilst often acetous, is also critical to adhesion. The molecules of the adhesion agents form a bridge between the surface of the aggregate and the mastic in the bitumen, which is where the adhesion agent is anchored. This means that “stripping”, or the failure to maintain a bond between the binder and the aggregate surface in the presence of water, can be prevented.

Product Portfolio

PRODUCT NAME		SCHWECHAT	SZÉKESFEHÉRVÁR
PAVING GRADE BITUMEN			
Bitumen	20/30		■
Bitumen	30/45		■
Bitumen	35/50		■
Bitumen	40/60		■
Bitumen	50/70	■	■
Bitumen	70/100	■	
Bitumen	100/150		■
Bitumen	160/220	■	
HARD PAVING GRADE BITUMEN			
Bitumen	10/20		■
INDUSTRIAL BITUMEN			
Bitumen	90/10	■	
Bitumen	H		■
OMV PREMIUM PRODUCTS			
Starfalt® PmB			■
Starfalt® PmB	10/40-65	■	■
Starfalt® PmB	25/55-55		■
Starfalt® PmB	25/55-65	■	■
Starfalt® PmB	45/80-55		■
Starfalt® PmB	45/80-65	■	■
Starfalt® PmB	45/80-75	■	■
Starfalt® PmB	45/80-80		■
OMV Starfalt® PmB Recycling			
Starfalt® PmB	45/80 RC	■	■
Bitumen	100/150 RC		■
OMV Warm Mix Bitumen			
Bitumen	NV (WMA)		■
Starfalt® PmB	NV (WMA)		■
Bitumen	LE (WMA)		■
Starfalt® PmB	LE (WMA)		■
OMV Starfalt® PmB High Modified			
Starfalt® PmB	45/80-80 (HiM)		■
OMV Starfalt® PmB Fuel Resistant			
Starfalt® PmB	45/80 FR		■
OMV Bitumen Plus			
Bitumen	Plus		■
Starfalt® PmB	Plus		■

OMV Downstream GmbH

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Information available 24/7:
More product details and material safety data sheets can be found online at www.omv.com

Changes and errors excepted.

Status 11/2022