

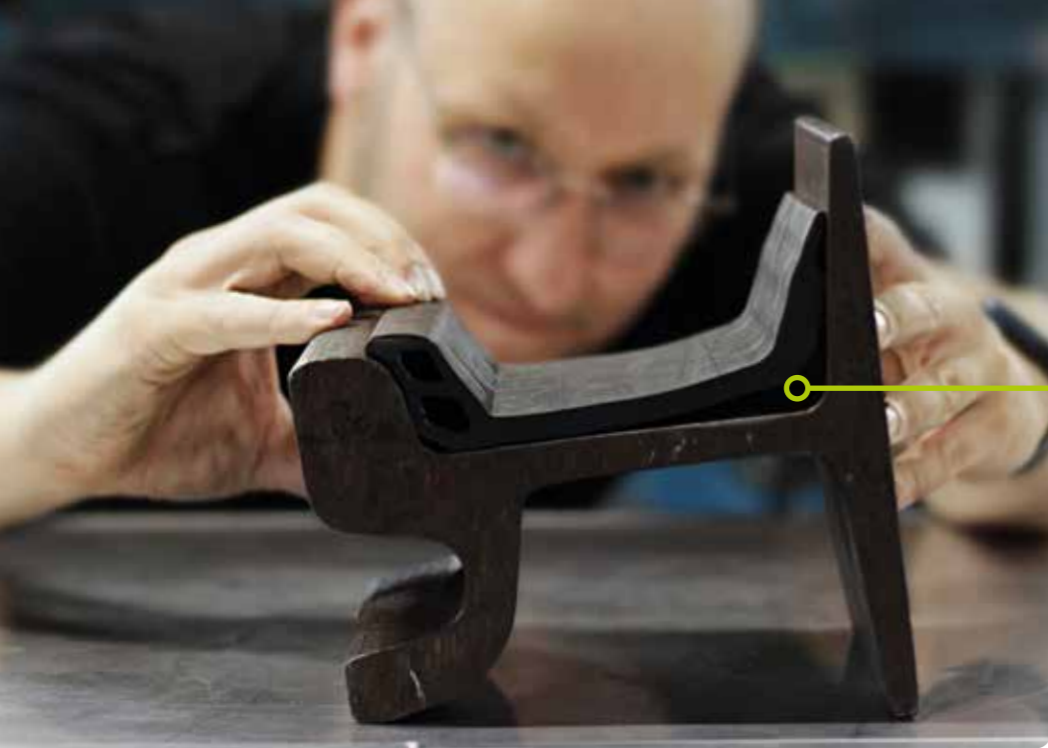
# SEAL ABLE

pioneers in profiles



## SEALABLE RCS®

Continuous & discontinuous elastic rail encapsulation



# SEALABLE

pioneers in profiles

**With the RCS® (Rail Comfort System), surrounding buildings are protected from structure-borne noise and the quality of life of residents is improved.**

## RAIL COMFORT SYSTEM THE PROBLEM SOLVER FOR YOUR INDIVIDUAL RAIL ENCAPSULATION SYSTEM

The embedding of rail in the inner-city infrastructure places high demands on planners and coordinators. Tram traffic causes enormous shocks and vibrations in the vicinity of the track, which in many cases leads to damage to the surrounding superstructure, making frequent repairs necessary.

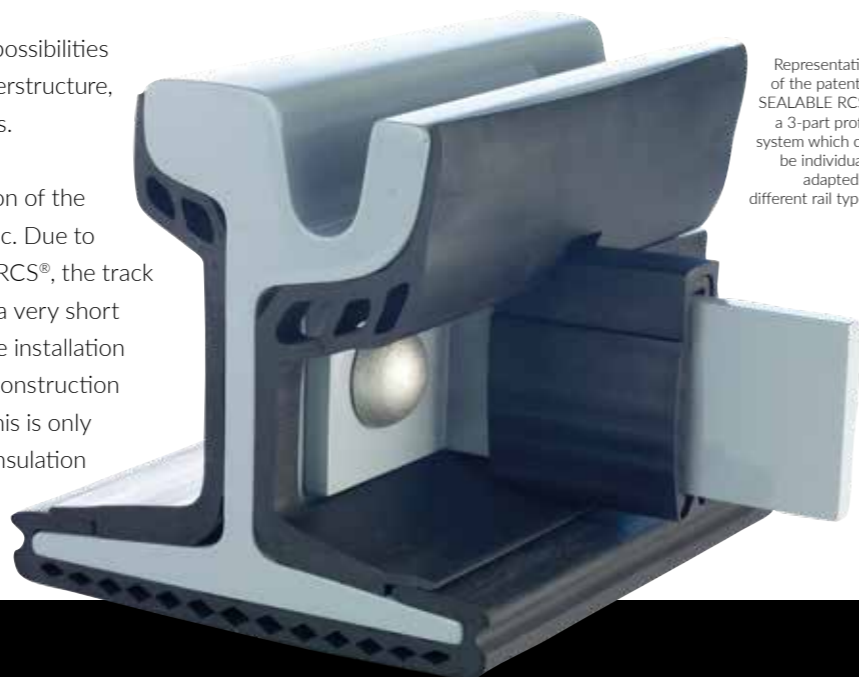
By using SEALABLE's Rail Comfort System, individually adapted to your project, problems of this kind can be avoided, the track can be decoupled from the adjacent superstructure and vibrations from tram traffic can be reduced to a great extent. The discharge of stray current is reduced to a minimum by our insulations.

This brochure gives a general overview of the possibilities offered by our RCS®. In addition to a classic superstructure, customised solutions are also no problem for us.

In many cases, the expansion and reconstruction of the tram network causes restrictions in urban traffic. Due to the modular design, which is possible with the RCS®, the track construction work can be implemented within a very short time. Thanks to the RCS® modular principle, the installation work can be carried out independently of the construction progress, both in terms of time and location. This is only possible to a limited extent with conventional insulation methods.

Our system can be used worldwide for all known track constructions and offers suitably manufactured profiles according to your specifications. We have created the possibility to completely insulate rails up to 18 m with only three elements in a very short time.

The Rail Comfort System is suitable for use in any type of covering - whether road track (asphalt, paving, concrete) or grass track. Thus, the RCS® offers visual and functional added value at the same time. Our all-in-one solution can be adapted 100% to your requirements and thus offers maximum flexibility.



Representation of the patented SEALABLE RCS®, a 3-part profile system which can be individually adapted to different rail types.



### WE ARE INNOVATION.

Together with you, we develop ideas up to product maturity and support you throughout the entire product life cycle.



### WE ARE EXPERTS.

You benefit from established resources, structures, and know-how through a trusting customer relationship.



### WE ARE REGIONAL-GLOBAL.

Regional roots combined with a worldwide network of long-term partners offer you reliable service on-site.



## WHY OUR RAIL COMFORT SYSTEM?

With urbanisation, cities are growing and with them rail-bound traffic is moving even closer to the built-up area. Vibrations can have a considerable impact on the environment and severely impair the quality of life. With sensitive installations and equipment, even the smallest vibrations can lead to a loss of quality. We specialise in developing effective solutions to reduce vibrations. In addition, metallic structures such as pipelines, tank vessels, reinforced cable sheaths and reinforced concrete structures are exposed to a corrosion risk due to the influence of unwanted stray currents.

SEALABLE offers you effective elastic rail support systems that not only reduce stray current losses but also make a significant contribution to avoiding structure-borne noise in daily railway operations.

RCS® meets all your requirements regarding complete and sustainable rail insulation. It is perfectly suited for any type of rail profile, as well as switches and crossings.

The base profile can be adapted according to your requirements regarding rail deflection. With only a few accessories, we guarantee you a cost-saving and perfect installation. The Rail Comfort System is suitable for use on all types of surfaces, such as roads, separate tracks or grass. Due to the low weight of its components, track frames with RCS® are an economical alternative and a guarantee for high quality as well as short construction or closure times independent of weather conditions.

Thanks to its high insulation capacity, elasticity and durability - even under the harshest weather conditions - our RCS® always offers an optimal solution.

## RCS® ADVANTAGES AT A GLANCE

### REDUCTION OF SHOCKS AND VIBRATIONS

The reduction of structure-borne noise by the RCS® protects surrounding buildings and improves the quality of life for residents. The adaptation of the RCS® to your individual requirements enables ideal insulation of the rail.

### HIGH INSULATION AGAINST STRAY CURRENT

The reduction of the leakage current discharge is possible with RCS® down to 0.01 S/km, which is far below the maximum amount of 2.5 S/km required by law in Germany.

All components located on and in the track can be insulated with the RCS®.

### CERTIFICATES & APPROVALS

Tested according to DIN 45673-8 by TU Dresden.

Testing of electrical insulation according to DIN EN 50122-2 measurement protocol of the Technical Academy Wuppertal e.V.

Certification according to DIN EN ISO 9001 as well as DIN EN ISO 14001 and DIN EN ISO 50001

### TIME SAVING DUE TO PRE-ASSEMBLY

Compared to many other systems, RCS® can be pre-assembled. This means that entire track frames can be manufactured independently of weather-related construction and lockdown times and delivered to your construction site just-in-time. This significantly reduces the construction site closure time and guarantees the highest level of quality and safety during assembly.

### EASY HANDLING DURING ASSEMBLY

Other systems require up to 25 parts for insulation. With the help of the insulation by RCS® no more than 3 parts are required, on the straight section as well as in the curves.

The system can be supplied in any length.

### MAINTENANCE AND SERVICE

Due to the reduction in wear and the low risk of corrosion, the maintenance effort is significantly reduced.

The system allows for easy rail replacement without extensive construction work.

Repairs to the rail by simple reprofiling/welding are possible.

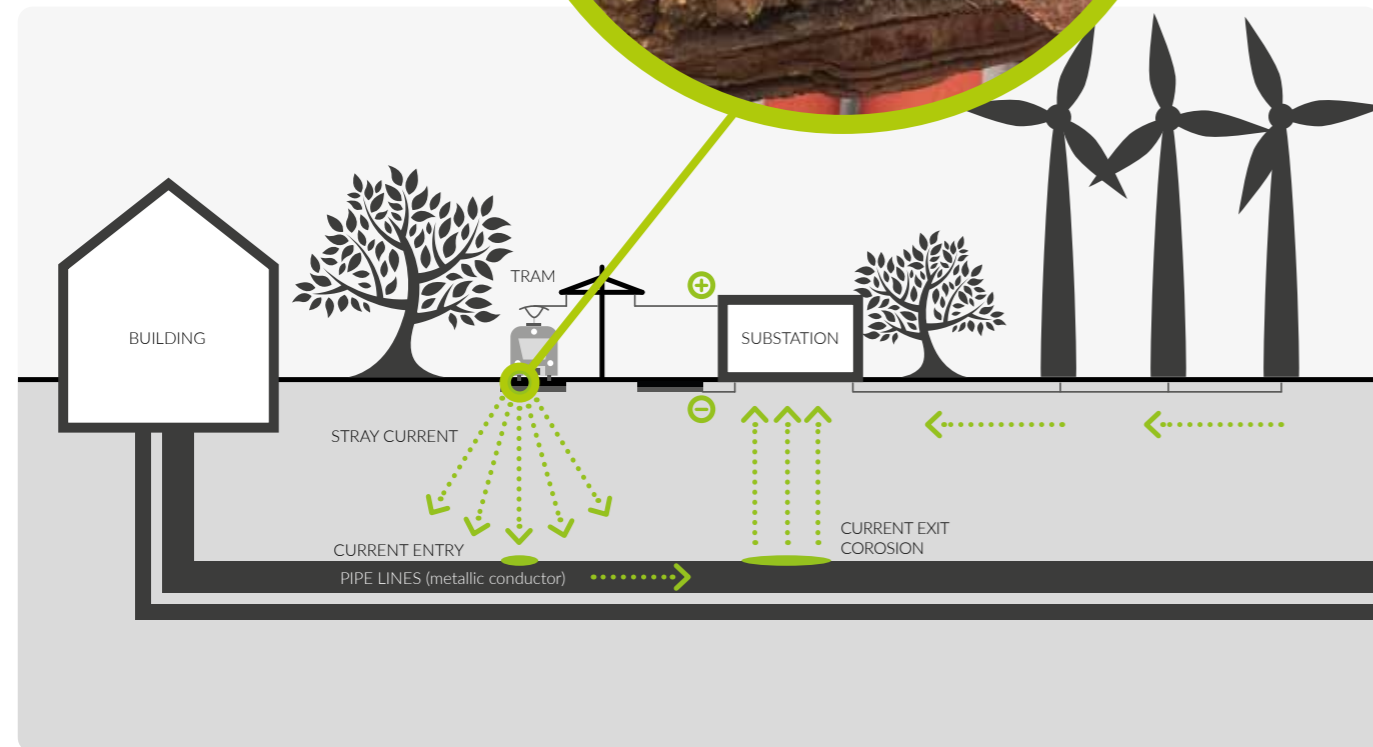
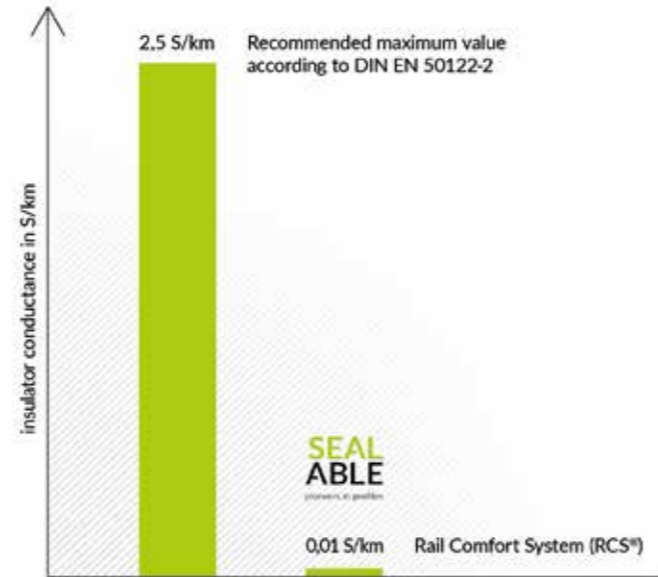


## STRAY CURRENT INSULATION

Stray currents are known to flow along undesirable paths back to their source of current. Such paths include not only the ground, but also metal installations laid in the ground, such as pipelines, reinforced cable sheaths, but also tunnel constructions and railway tracks. Consequently, they are subject to an increased risk of corrosion due to stray currents, especially when moisture finds its way through the insulation.

The Rail Comfort System isolates the track from the surrounding superstructure and greatly reduces stray currents. All components are made of high quality elastomers. The electrical insulation values of the materials are tested according to DIN IEC 62631-3-1.

According to DIN EN 50122-2, the guideline value for the discharge layer is a maximum of 2.5 S/km. For the installed track, which is equipped with the SEALABLE Rail Comfort System, the value is many times lower: 0.01 S/km. The reason for this is the simple and compact design, the optimal composition of the materials used and the insulation of all components in the track.



## CHAMBER FILLER OR ...



Conventional systems, such as insulation with chamber fillers, have more than 25 parts per 18 m of track. The resulting number of joints favours the undesired escape of stray current.

more than  
**25**  
**PARTS**  
PER TRACK

## ... RAIL COMFORT SYSTEM

The SEALABLE RCS® requires no more than three parts for the same length on the straight section and in curved areas. The joints are additionally sealed and insulated with a special paste.



**03**  
**PARTS**  
PER TRACK

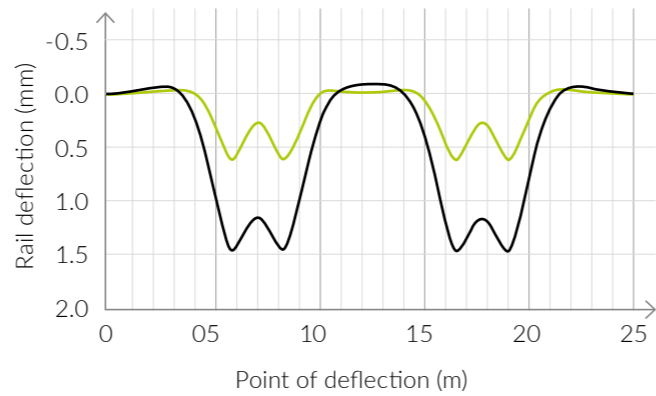
# REDUCTION OF STRUCTURE-BORNE NOISE

In addition to the acoustically audible airborne noise, trams also generate structure-borne noise. This low-frequency structure-borne noise is transmitted through the superstructure and substructure, tunnels, bridges, the surrounding ground as well as building walls into the respective rooms of a house. Ceilings and walls are thus made to vibrate by the passing trains and radiate airborne noise. The structure-borne noise transmitted into buildings by the trams and the resulting secondary noise usually covers a frequency range between about 16 Hz and 160 Hz, in exceptional cases up to about 350 Hz. Clanging tableware in the cupboard and cracks in the walls of the house are possible results of underperforming insulation..

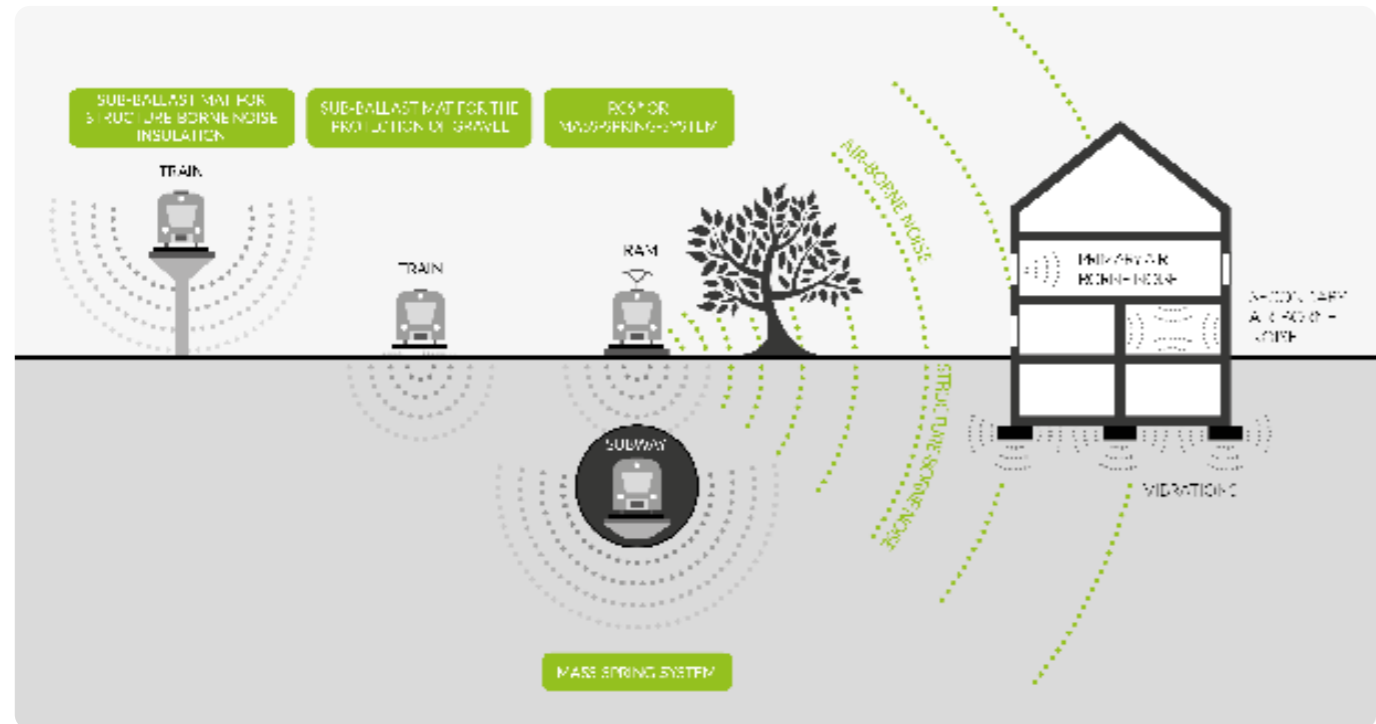
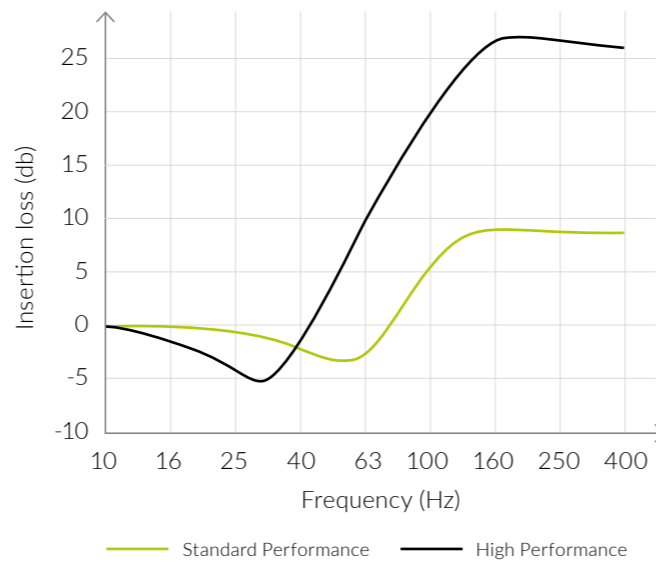
The reduction of structure-borne noise is therefore one of the most important tasks of a continuous track system! Especially in densely populated residential areas, a permanent reduction of shocks and vibrations is essential. With urbanisation, cities are growing and with them rail-bound traffic is moving ever closer to the built-up area. Vibrations can have a significant impact on the environment and severely affect the quality of life.

By simply combining different components, SEALABLE is able to design the RCS® to meet your requirements for rail deflection and the resulting insulation.

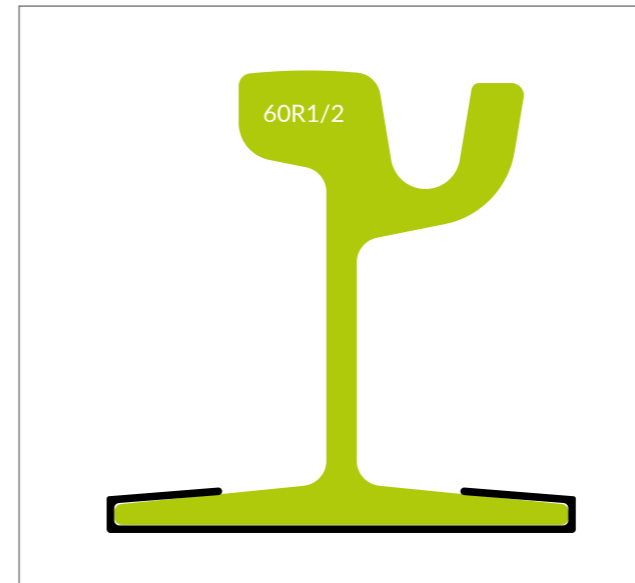
## RAILDEFLECTION



## INSERTION LOSS



# VERSIONS

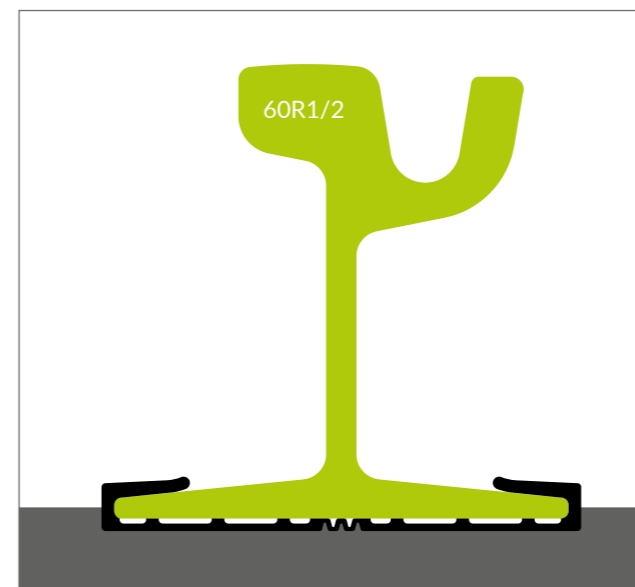


## STRAY CURRENT INSULATION

Example M80148

This version is made of SBR (styrene-butadiene rubber) and serves purely as a stray current insulator. Due to the geometric characteristics, this version has no acoustic damping. The rail fastening system takes over the damping of the structure-borne noise here.

- Stray current insulation
- Structure-borne noise insulation

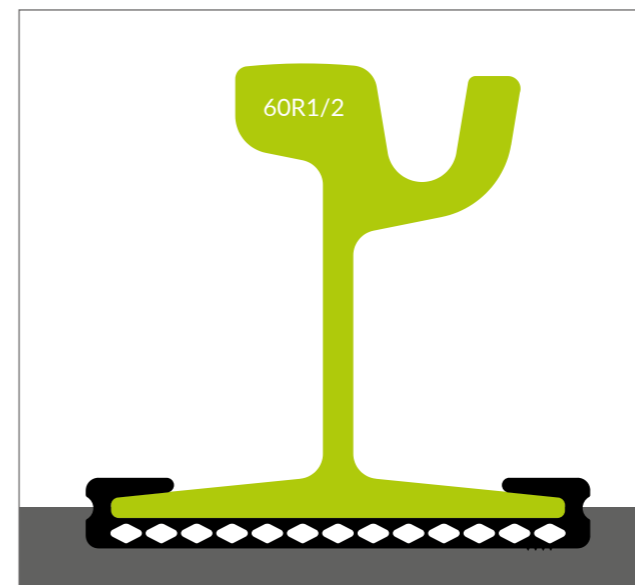


## STANDARD PERFORMANCE

Example M38648

The standard version consists of a hard base profile made of SBR with spring deflection (for M38648 this corresponds to 0.5 mm at 10 t axle load). This variant is suitable for continuously mounted systems with low acoustic requirements and high availability.

- Stray current insulation
- Structure-borne noise insulation



## HIGH PERFORMANCE

Example M38458

This variant is a soft base profile (for M38458 this corresponds to 1.5 mm deflection at 10 t axle load) made of natural rubber. This is very popular because of its naturally dynamic characteristics. In addition, it has very good electrical insulation properties and, thanks to the tube geometry, also structure-borne noise reduction at the highest level. This type of insulation is suitable for continuously mounted systems with high acoustic requirements.

- Stray current insulation
- Structure-borne noise insulation



Joint welding of the rails  
by means of thermite  
welding

## HEAT RESISTANCE

In the course of regular maintenance work on rails in tracks, switches and crossing systems, it is common practice to regularly weld on the rails, especially in the case of grooved rail tracks with a cover. This so-called build-up welding on rails makes it possible to extend the service life of the rails and thus delays cost-intensive rail replacements in the road-flush track system. It is important that the insulation of the rails is resistant against such work, otherwise maintenance becomes a costly affair.

We can guarantee the heat resistance of our insulation for wear-related overlay welding work or also the reprofiling of the rails. This property of the Rail Comfort System, as well as its resistance to hot bitumen, has been proven by tests carried out by independent institutes.

Thanks to its special compound properties, the material is heat-resistant and can withstand temperatures above 270°C for a short time.



## MATERIAL

The material is particularly characterised by high abrasion and weather resistance. It is resistant to hot blacktop material and build-up welding, has a structure-borne noise insulating effect and reduces the airborne noise radiation of the rail.

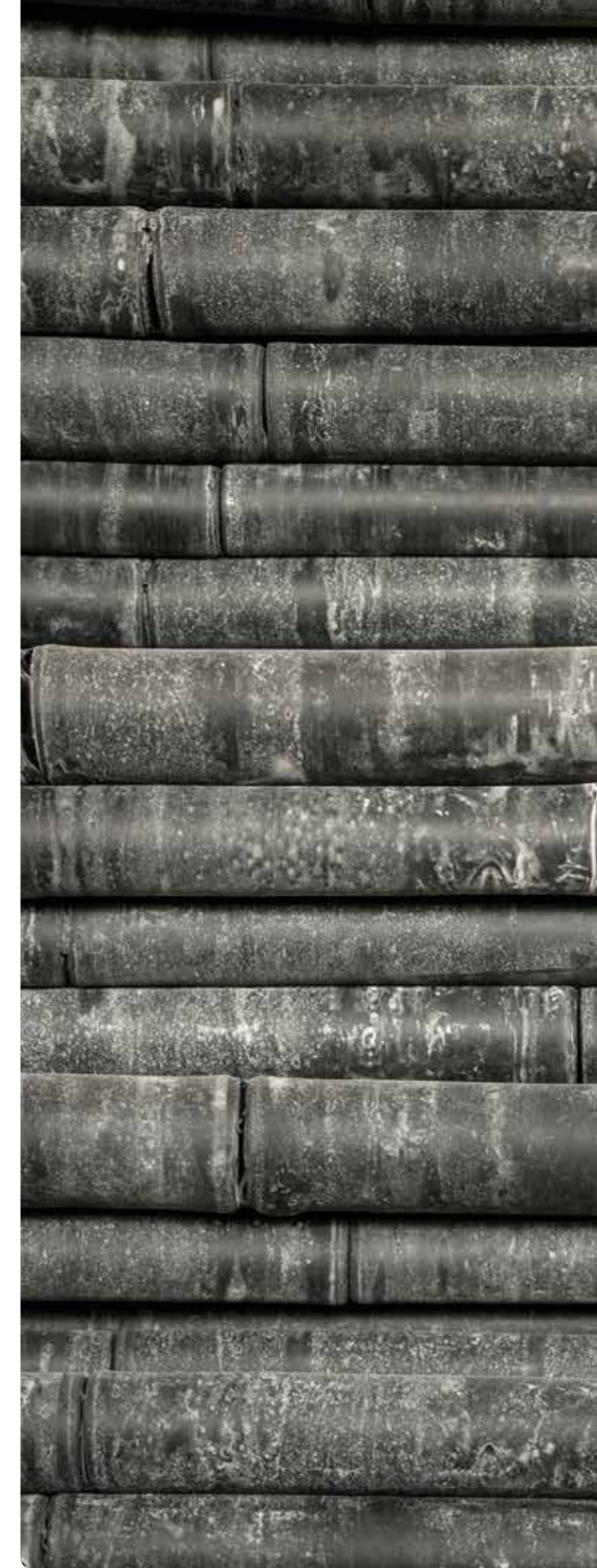
The elastomer compound used complies with the following standards and regulations: DIN 7865 Elastomer waterstops for sealing concrete joints.

### NR - NATURAL RUBBER

Natural rubber (NR) is a polymer produced by vulcanisation. It is very popular because of its natural dynamic properties, such as elasticity, durability, tensile strength and abrasion resistance. Furthermore, NR can be mixed very well with synthetic rubber and thus improved according to the desired requirements. The temperature resistance ranges from -40 to +80°C.

### SBR - STYRENE BUTADIENE RUBBER

Styrene butadiene rubber (SBR) is known as a universal rubber grade and is used in diverse industries, such as construction, marine, industrial and automotive. SBR has excellent mechanical properties: The rubber retains its shape and high resilience, and is abrasion and tensile resistant. The material is also highly resistant to acids and salts. However, contact with oils and hydrocarbons should be avoided. It is resistant to temperatures from -30°C up to +90°C.





## EASY HANDLING

In addition to stray current insulation and structure-borne noise insulation, another important factor for the selection of an optimal rail encapsulation system is the easy handling.

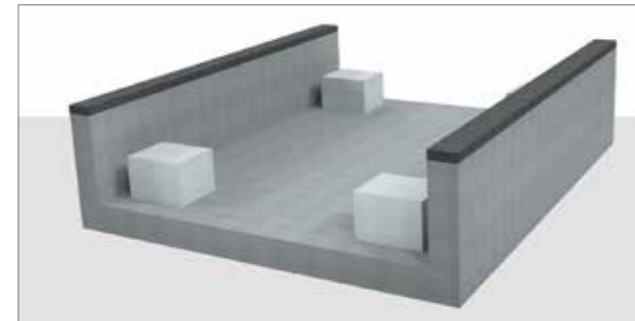
In contrast to many other systems, the RCS® can be pre-assembled both locally and temporarily independent of the construction progress. This means that the insulation is not tied to weather conditions or construction and closure times. Delivery is possible just-in-time, which avoids logistical bottlenecks.

In addition, this approach guarantees the highest level of quality and safety during installation. Contamination and improper assembly due to lack of time or untrained personnel do not occur with this option. The pre-assembly of the track components, for example, takes place in the factory under optimal temperature and working conditions.



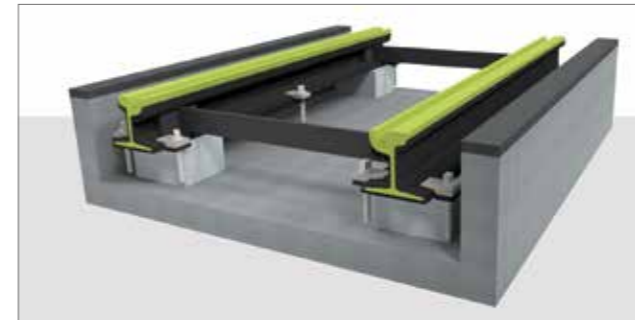
Factory preparation of the rail insulation under ergonomic and weather-independent working conditions

## EXAMPLE: PROCESS PLAN FOR AN ASPHALT COVERING



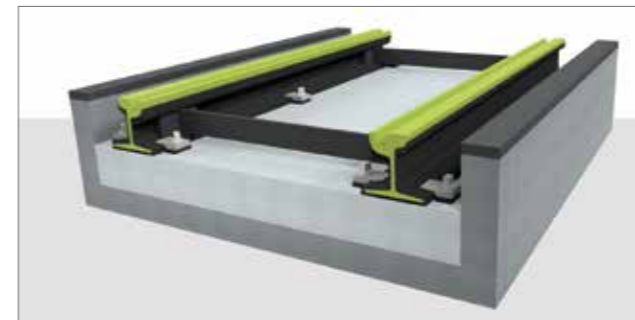
### STEP 1 | PREPARATION

The bearing blocks for the track panels are positioned on the subgrade at regular intervals. The fixed points of the track axis are marked in parallel. The rails and points are insulated outside the construction site in order to be independent of weather-related construction and closure times. Delivery is just-in-time to prevent logistical problems.



### STEP 2 | POSITIONING & FIXING THE TRACK PANEL

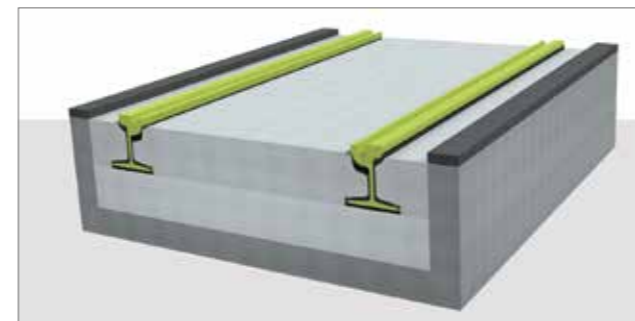
The track panels are placed on the bearing blocks by means of a lifting vehicle. Then the fastening elements and shims for height adjustment of the track are pre-assembled. After the provisional laying out, the rails are electrically welded and then insulated with a welding joint sleeve. Now the track can be finally aligned in height and position.



### STEP 3 | CONCRETING LAYER 1

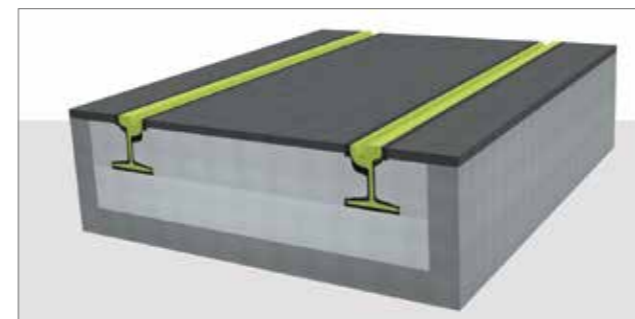
The next step is to pour the concrete for the base plate or longitudinal concrete beam. After that, the rail fastening is firmly connected to the subsoil. After the concrete has hardened, the fastening screws are tightened with the necessary torque.

*Concrete slab: for crossings with asphalt superstructure*  
*Concrete length bars: for maximum substrate height in green track*



### STEP 4 | CONCRETING LAYER 2

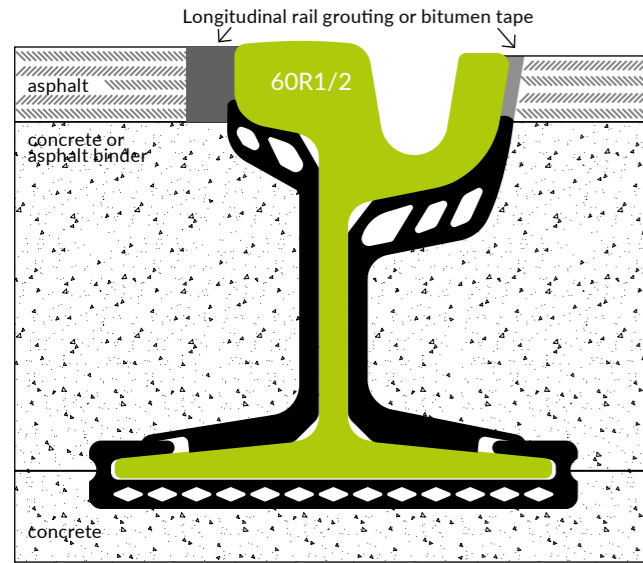
The second layer of in-situ concrete is then poured. To protect the rails and avoid time-consuming cleaning after concreting, it is advisable to cover them with a foil.



### STEP 5 | APPLICATION OF THE ROAD SURFACE

Finally, the road is covered with asphalt. A longitudinal rail grout is used as a connecting element between the asphalt and the rail.

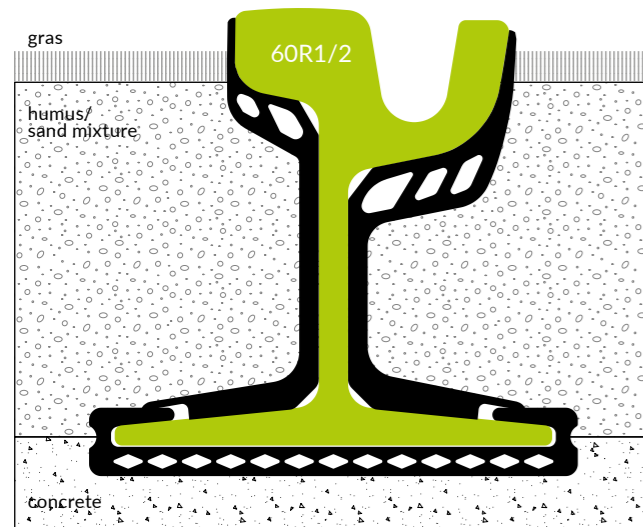
## AREAS OF APPLICATION



### GROOVED RAIL ROAD TRACK

For an inner-city road track, the most important factors are durable use, high-quality insulation for the protection of the surroundings, and an overall aesthetic appearance.

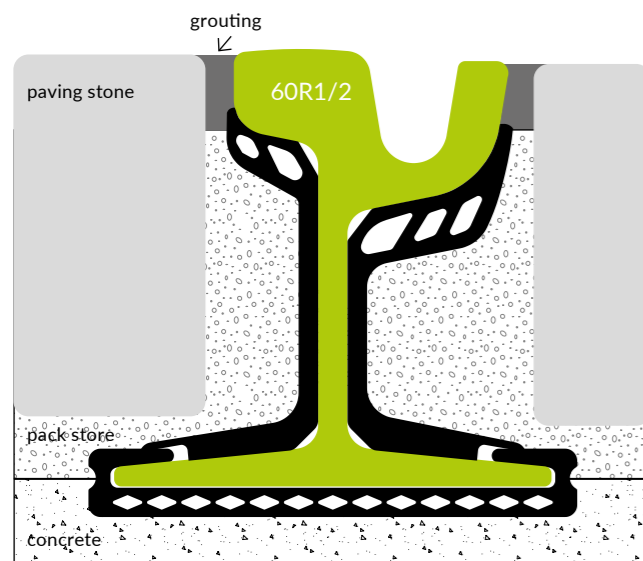
With the shortened profiles at the rail head, there is a free contact surface for longitudinal rail grouting or the use of a bitumen tape. This ensures the free movement of the rail and can withstand the stress of daily individual traffic. Furthermore, the RCS® enables the insertion of the filler material into the rail chamber.



### GROOVED RAIL GREEN TRACK

With green track, natural inner-city design is an important factor in addition to stray current insulation and noise damping. Thanks to the greening, fine dust can be reduced and rainwater can be better absorbed and stored.

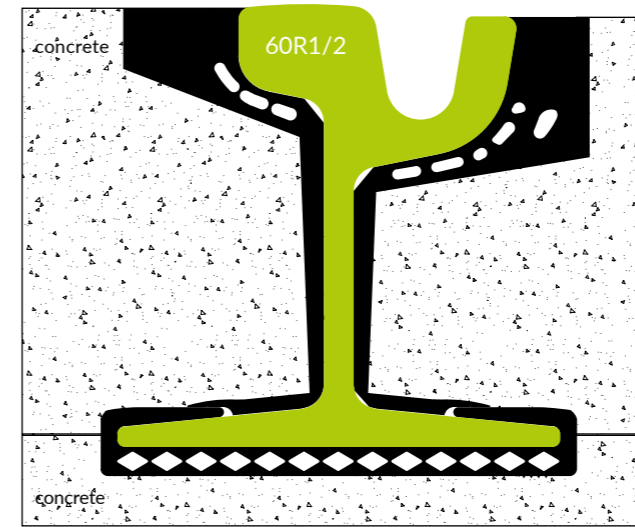
The side profile goes all the way to the top of the rail and due to the low material thickness at the rail head, only a narrow and even black line can be seen along the tracks and there is plenty of space for greening.



### GROOVED RAIL PAVEMENT TRACK

Paved track is the most elaborate type of street covering. This makes it all the more important here to ensure permanent use for a harmonious townscape.

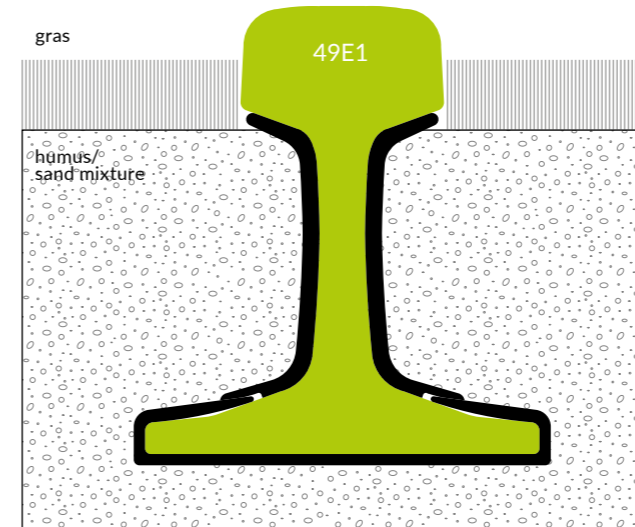
The side profile does not go all the way to the top edge of the rail. This results in a free contact surface for the grout, which is also used between the individual paving stones. Due to its slender shapes, the side profile fits perfectly against the rail web. This makes it possible to fill the rail chamber and completely decoupling the system. This is necessary so that the movement of the rail is not transmitted to the superstructure.



### GROOVED RAIL WITH CONCRETE COVERING

The concrete superstructure is a high-strength covering for the heaviest loads, as it is necessary for stops.

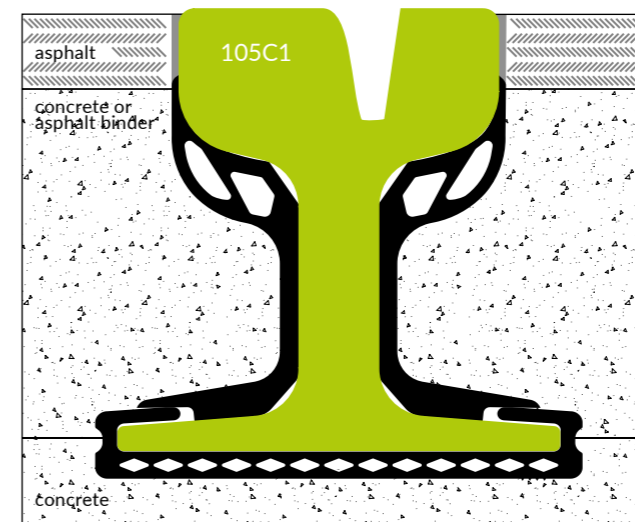
The longitudinal rail grouting is a susceptible maintenance element. With a wide profile head that goes up to the top of the rail, no bituminous tape or longitudinal grouting is necessary. A special connection on the side of the profile ensures fixation to the surrounding concrete.



### VIGNOLE RAIL GRASS TRACK

Vignole rails are also often used in green tracks. Insulation, as well as natural inner city design, are important factors in building development. Thanks to greening, rainwater can be better absorbed and stored. In addition, it serves to reduce fine dust.

The side profiles extend to just below the rail head and are no longer visible due to the low material thickness and the subsequent greening.



### SWITCHES AND CONSTRUCTIONS

In the field of turnouts and constructions, there are some components that deviate from the typical rail shape. Be it the tongue or the frog or other switch parts. There is an individually adaptable insulation option with the proven Rail Comfort System to meet the respective requirements.





INSULATION FOR SWITCH CONTROL AND DRAINAGE

INSULATION FOR WIRING BOXES

SWITCH INSULATION TONGUE

SWITCH INSULATION OF SPECIAL PROFILES

WELDING JOINT INSULATION

INSULATION OF ALL TIE ROD COMPONENTS AND SLEEPER CONNECTIONS

SWITCH INSULATION FROG

ISOLATION OF ALL ON TRACK LOCATED COMPONENTS

Tongue

105C1

Frog

# TIE RODS

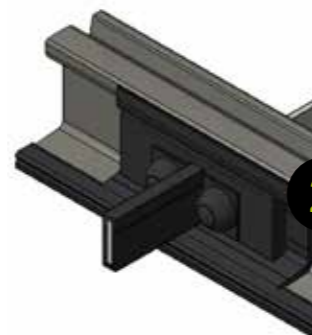
ART.-NO.	NAME	DIMENSIONS	DRAWING
371571 374349 374350	M38640	60/10 Length 900 - 1050 mm 60/10 Length 1100 - 1450 mm 60/10 Metre goods (20 m)	
371533 371543 371545 376490	M38636	70/10 Metre goods (20 m) 70/10 Length 900 - 1050 mm 70/10 Length 1100 - 1450 mm 70/10 390 mm	
374341 371994 374342	M38650	80/10 Länge 900 - 1050 mm 80/10 Länge 1100 - 1450 mm 80/10 Metre goods (20 m)	
373520 376682 376352	M38673	45/20 Length 900 - 1050 mm 45/20 Length 1100 - 1450 mm 45/20 Metre goods (20 m)	

ART.-NO.	NAME	DIMENSIONS	DRAWING
376586 376587 376588	M80192	50/20 Length 900 - 1050 mm 50/20 Length 1100 - 1450 mm 50/20 Metre goods (20 m)	
374377 374376	M38672	Ø 32 Length 900 - 1050 mm Ø 32 Length 1100 - 1450 mm	
377375 376275	M80070	Ø 28/41 Length 900 - 1050 mm Ø 28/41 Length 1100 - 1450 mm	
375663	M38818	20cm Length for areas ISO Tie rods 60/10	



ART.-NR. 366016

E142567  
Cover for tie rod  
bolting outside

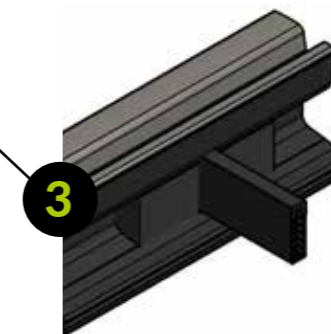


ART.-NR. 366021

T 0893  
Cover for rectangular  
tie rods outside

ART.-NR. 366021

E400281  
Cover for rectangular  
tie rods inside



ART.-NR. 375098

T 869 + T870  
Cover for round tie  
rods inside



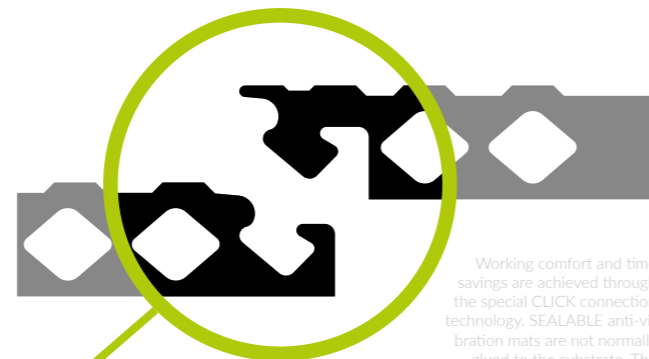


## COMBINATION WITH MASS-SPRING SYSTEM (MFS)

SEALABLE MFS products are decoupling and protecting mats for railway systems. Tested according to DIN 45673-7, they reduce structure-borne noise and secondary airborne noise as well as vibration emissions when used in railway applications. The additional use of our RCS® reduces the risk of stray current to a minimum.

MFS and RCS® - The right combination for a long-lasting, low-maintenance rail system.

SEALABLE anti-vibration mats can be used over the entire surface or as strips for mounting in mass-spring systems.

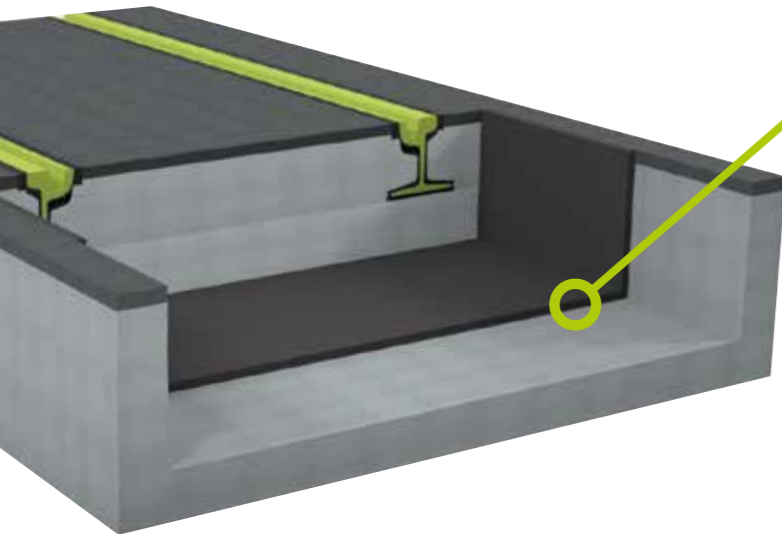


Working comfort and time savings are achieved through the special CLICK connection technology. SEALABLE anti-vibration mats are not normally glued to the substrate. The only prerequisite for simple installation is a tread-proof subgrade.

The installation of SEALABLE mass-spring system products is characterised by functionality and easy handling. The set-up of the floor mats and the use of side mats can be individually adapted to local conditions.

### Our MFS products:

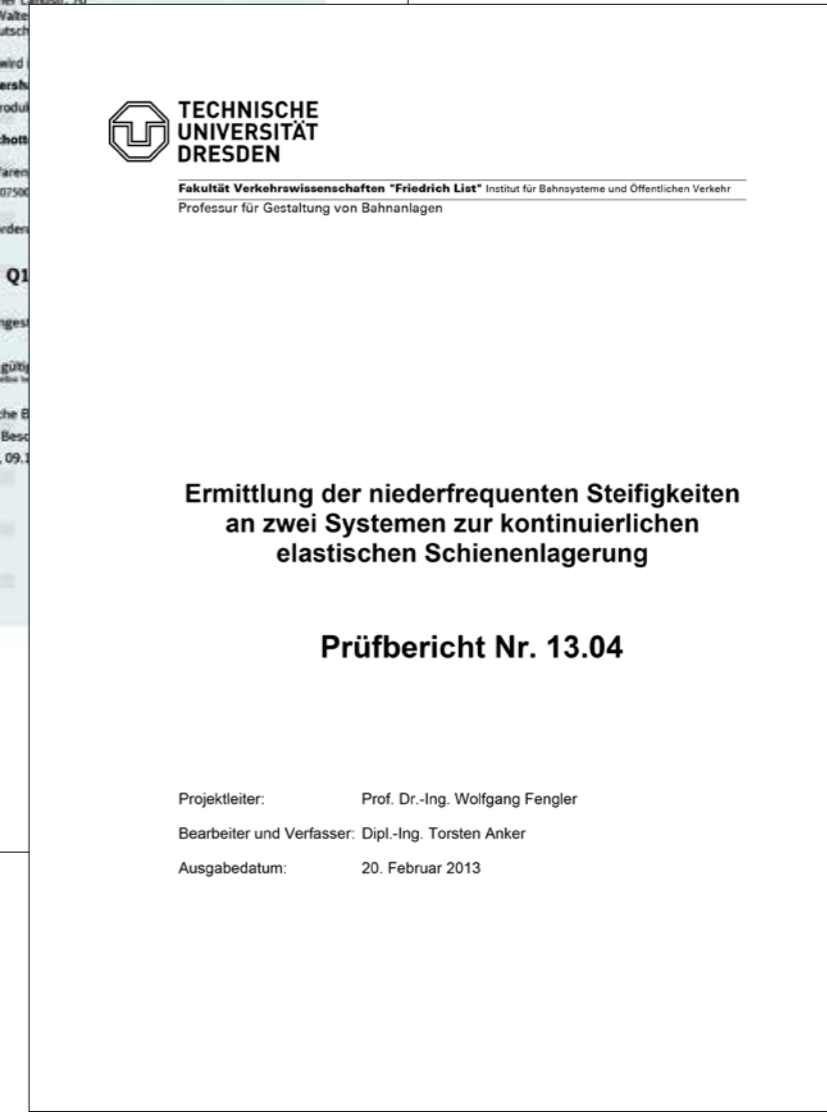
- S 22-04a (static stiffness > 0.02 N/mm<sup>3</sup>)
- S 22-02a (static stiffness > 0.03 N/mm<sup>3</sup>)
- S 22-01 (static stiffness > 0.025 N/mm<sup>3</sup>)



## CERTIFICATES AND APPROVALS

Various institutions tested our RCS® in terms of conductive coating, low-frequency dynamic stiffness, quality capability and heat resistance. Our system achieves top values everywhere, which are confirmed by certificates and approvals.

With the help of FEM simulation, our products are constantly being further developed and optimised. This competence enables a holistic approach that takes into account a wide range of influencing factors.



## OUTLOOK

### SUSTAINABILITY

It is not only urbanisation that is advancing in great steps. The topic of sustainability is also becoming ever more present. The constant tightening of emission protection limits and the growing demand for sustainable products also require new, innovative materials and combinations in the production of modern insulation solutions.

We are rising to the challenge and so a more sustainable RCS® will be launched in the future. The carbon black content will be partially or completely substituted with a „functional filler“ made of wood. Thanks to the negative CO<sub>2</sub> footprint of the alternative material, the balance of our product will be significantly improved. The new filler material also increases the insulation of the RCS® and reduces its density. This makes it even more efficient against stray current and also lighter. All previous advantages for structure-borne noise insulation as well as the easy handling of our system remain unchanged.

### DIGITALISATION

In addition to sustainability, digitalisation is also playing an increasingly important role for the future. Railways that are fully automated and run at shorter intervals, that are intelligently and automatically controlled in real time, that recognise their environment and their position through sensor technology - this is what the future of rail transport looks like. Digital progress does not stop at control and maintenance.

To provide transport companies with a new option here, our RCS® can be produced with functional fibres. These transmit various information, such as pressure, movement and vibrations. In this way, digital systems can detect possible damage at an early stage through the smallest deviations, regardless of whether this affects the vehicle or the infrastructure.



Electrostatic flocking of the side profiles as an alternative connection between insulation & top layer

### NO MORE LONGITUDINAL RAIL GROUTING

Another improvement of our Rail Comfort System is already in use: by modifying the head area of the side profiles with, for example, fibres or the connection of a steel sheet, the longitudinal rail grouting can be eliminated in the future for road tracks. The additional materials create a firm connection to the cover layer. At the same time, this is flexible enough to compensate for temperature-related movements in the road material.

## REFERENCE PROJECT ERFURT

Inhomogeneous undergrounds and the hosting of the BUGA 2021 required a contemporary restoration of the rail network at the Anger 1 junction in order to serve the city centre with increased frequency.

By starting the planning and tendering phase early with detailed delivery plans, it was possible to deliver the pre-assembled track components to the construction sites just-in-time. The modular construction, which is made possible by the Rail Comfort System, meant that track-laying work could be carried out within a very short time. The time-consuming assembly work required by conventional systems was carried out in advance at the factory using the RCS modular principle. All the specifications required by the customer in terms of stray

current insulation and rail deflection could therefore be implemented without any problems.

The “Freiburg” fastening system, also supplied by SEALABLE, and the resulting construction method made it possible to concrete section by section without track displacement.

The city administration and public transport companies were not the only ones who were very satisfied with the smooth and efficient execution of the project. City residents also appreciated being able to quickly use their railway line again without complications. As a result, rail transport in Erfurt’s city centre was also optimally prepared for BUGA 2021.

## REFERENCE PROJECT LIMMATTAL

The Limmattalbahnhof captures a large part of the additional future traffic and thus provides relief to the roads and town centres.

The rail network covers 13.4 km, and depending on local conditions, consists of Vignol and grooved rails with continuous or discontinuous rail support into a complex overall structure. In addition, there are different superstructure systems in place adapting to the cityscape of the Limmattal. Permanent Way systems with asphalt or concrete covering can be shared by bus and local traffic. Eco-friendly grass tracks enrich the streets and town centers with additional green areas.

The delivery of the turnouts and crossing constructions from abroad, as well as the locally separated construction sites with different construction progress in the various civil engineering lots represent a logistical challenge. Continuous availability of the RCS had to be ensured regarding production phase, delivery and storage.

The expansion of the transport network takes place in two construction stages with the Rheda City System from Vigier Rail AG / RAIL. ONE and three different designs of SEALABLE Rail Comfort Systems (RCS) for two rail types (60R2 and 49E1). The insulated switches and crossings are delivered from the factory.

The system was pre-assembled system at a central storage location, for an efficient and flexible supply of the rails. From there, the pre-assembled track components were delivered to the respective construction site as required. Further production and delivery took place just-in-time, in close coordination with the local construction managers.



## ADVICE & SERVICE

We provide free of charge project-related prognosis calculations on the expected static and dynamic superstructure and rail deformation and structure-borne noise insulation. In addition, we offer our customers the option of having an advisor on site to instruct the installation personnel in the case of an order.

### Services:

- ✓ Forecast calculations
- ✓ Instruction of the installation personnel
- ✓ Project-specific advice
- ✓ Data sheets & installation instructions

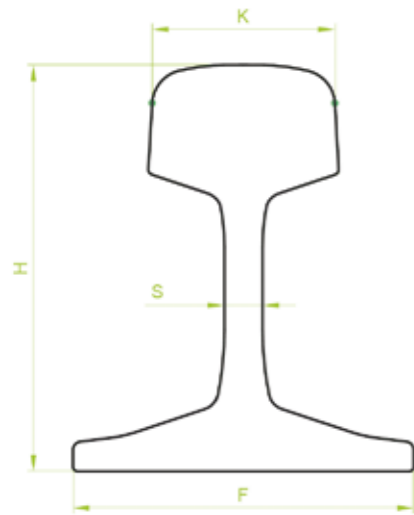
## YOU DO NOT RECEIVE A PRODUCT OFF THE SHELF.

### SEALABLE supplies you with a complete range such as:

- ✓ Highly elastic rail base profiles made of high-quality, ageing-resistant and electrically insulating materials for various static deformations under live load (100 - 120 kN), e.g.  $s=0.5\text{mm}$  or  $s=1.5\text{mm}$
- ✓ Ready-to-install side profiles with cut-outs for tie rod connections
- ✓ Insulations for all common tie rod dimensions
- ✓ Special profiles and elastomer strips for the insulation of thick rails, points, crossings and drainage boxes
- ✓ Accessories: Assembly adhesive G 2010 plus, sealing paste SP 75 and cleaner G500 plus

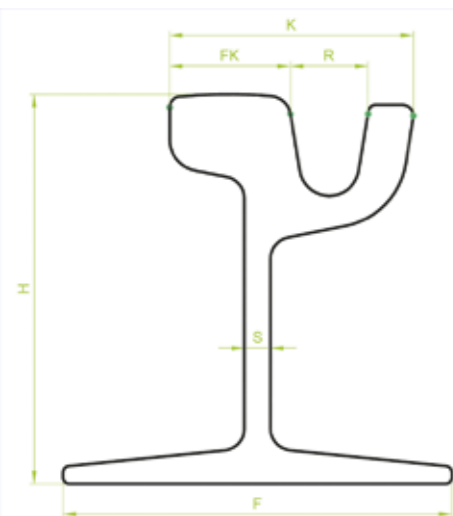


## MAIN DIMENSIONS OF THE VIGNOL RAILS



PROFILE	H (mm)	K (mm)	F (mm)	S (mm)
33E1(S33)	134	58	105	11
35E1 (Xa)	125	58	110	12
36E3(VST36)	130	60	100	12
39E1m	133,35	63,9	117,47	13,10
39E1(BS80A)	133,35	63,5	117,47	13,10
40E1 (S41-14)	138	67	125	12
41E1(S41-10)	138	67	125	12
PTC41	137,6	63,5	127	13,1
45E1 (BS90A)	142,88	66,67	127	13,98
45E2 (DSB45)	141	69,3	126	13,76
46E1 (SBB I)	145	65	125	14
46E2 (U33)	145	62	134	15
46E3 (NP46)	142	73,72	120	14
95RBH	145,26	69,85	69,85	19,05
SAR48	150	68	127	14
S48-U	149	67	115	14
49E5	149	67	125	14
49E1(S49)	149	67	125	14
50E2 (EB50T)	151	72	140	15
50E3 (BV50)	155	70	133	14
50E4(UIC50)	152	70	125	15
50E6 (U50)	153	65	140	15,5
SAR51	150	68	127	19
R50	152	70,24	132	16
54E2(UIC54E)	161	67	125	16
54E2KA700	161	67	125	16
54E4	154	67	125	16
54E5 (54E1AHC)	159	70,2	140	16
54E3 (S54)	154	67	125	16
54E1 (UIC54)	159	70	140	16
56E1 (BS113A)	158,75	69,85	140	20
115RE	168,28	68	139,7	15,88
SAR57	165	71,12	140	16
60E2	172	72	150	16,5
60E1 (UIC60)	172	72	150	16,5
60E1KA700	172	72	150	16,5
AS60	170	70	146	16,5
CHN60 (VRC60 / S60)	176	70,8	150	16,5
JIS60	174	63,62	145	16,5
R65	180	73	150	18
136BHP	185,74	73,46	152,4	17,46
136RE-8	185,74	73,78	152,4	17,46
AREA136RE	185,74	73,77	152,4	17,46
AREA136REIH	185,74	73,41	152,4	17,46
136RE14	185,74	73,71	152,4	17,46
AREA141AB	188,91	74,32	152,4	17,46
TN70	190,5	70	110	14
71E2	172	72	150	25

## MAIN DIMENSIONS OF THE GROOVED RAILS



PROFILE	H (mm)	K (mm)	FK (mm)	R (mm)	F (mm)	S (mm)
51R1 (RI52R13; RI52)	130	113	55,83	42,35	150	12
53R1(RI53R13; RI53)	130	113	55,83	36,35	150	12
RI53-10	130	113	56	36	150	12
54G2	152,5	116,6	55,91	41,55	141,5	13
55G1 (35GP)	152,5	111,82	56,23	35,94	141,5	13
55G2(41GP)	152,5	116,9	56,23	40,94	141,5	13
55NK	150	113	55,83	36,17	150	12
57R1 (Ph37)	182	127	51,92	60,45	150	11
57A	130	113,83	56	30	150	12
59R2 (RI59R13; RI59N)	180	113	55,83	42,35	180	12
59R1 (RI59R10; RI59)	180	113	56	42	180	12
60R3 (RI210/95+80)	210	112	58,4	33,14	175	11,5
60R2(RI60R13; RI60N)	180	113	55,83	36,35	180	12
60R1 (RI60R10; RI60)	180	113	56	36	180	12
RI60NL	180	113	55,83	36,35	180	12
62R2(NP4aS)	180	116	55,86	33,98	180	12
62R1(NP4aM)	180	116	56,03	34,44	180	12
63R1 (RI210/95+80a)	210	122	58,4	33,14	175	11,5
67R1	180	135	60,03	58,66	180	13
73C1 (VKRI60)	180	113,1	-	-	180	12
75C1 (BA75)	180	113	56	36	180	20
105C1 (D180/105)	180	130	-	-	180	32
310C1 (BL180/260)	184	260	-	-	260	162



More than fifty years of market experience provide the foundation for our range of high quality sealing solutions to meet every challenge in your project.

## WE ARE EXPERTS IN THE FIELD OF PROFILES AND SEALING.

It all began more than 200 years ago with the production of fire hoses. Combined with product diversification, our expertise in elastomer profiles and know-how in processing various types of rubber have grown over the past 50 years.

Through various stations and ownership relationships starting with PHOENIX AG, ContiTech AG, later PHOENIX Dichtungstechnik GmbH and finally DÄTWYLER Sealing Technologies Deutschland GmbH, our organization developed into an internationally operating company. In 2018 we received the Thuringian Innovation Award in the

“Tradition & Future” category for our product “Bicycle safe track”, we also have 43 patents.

With the management buy-out in May 2020, SEALABLE Solutions GmbH now operates as a Thuringian company with a global network.

Our premise is not only global sales; above all, trusting and close contact with our customers and partners is our top priority. This means that our partnerships are sustainable and often include an entire product life cycle.

### YOUR CONTACT PERSON



**Matthias Klug**  
matthias.klug@seal-able.com  
Mobile: +49 151 146 488 42

Languages: ENG / GER  
Managing Director



**Robert Wörfel**  
robert.woerfel@seal-able.com  
Mobile: +49 171 5324 301

Languages: ENG / GER  
Product Manager



**Tino Garbe**  
tino.garbe@seal-able.com  
Mobile: +49 171 314 5754

Languages: ENG / GER  
Product Development Manager



[www.seal-able.com](http://www.seal-able.com)  
You can find the contact persons for individual countries or regions on our website.

**SEALABLE** Solutions GmbH  
Eisenacher Landstraße 70  
99880 Waltershausen  
Germany

Phone +49 3622 633-200  
Fax +49 3622 633-411  
info@seal-able.com  
www.seal-able.com



Stay informed and get the latest product information and news in the area of tunnel construction, vibration isolation in railway construction and industry with one scan.