



The perfect ●
mix



*for ready-mix
concrete and precast
concrete plants*

*Working with
Hawiflex® plates*

*Repairing with
Hawipair®*

Accessories

Habermann materials – The original is your trump!

The name stands for 80 years experience with the hydraulic transport of solids and is a major pioneering company for the development of **mixer tools for concrete mixers**.

With the introduction of the **original brand Hawiflex®** more than 50 years ago, HABERMANN established the brown mixing blades at numerous concrete plants in Germany, Europe and beyond Europe's borders.

All parts have the label Original Hawiflex®. Our brand has often been copied in accordance with the misleading motto of „all browns are the same“. Yet, we have been able to further extend our technological advantage and to strengthen our market-leading position.

Hawiflex® products have been successfully used in ready-mixed concrete plants, precast concrete plants, in the production of concrete blocks, concrete pipe production and in the roof tile industry.

A major focus of our supply range is on mixer tools for virtually **all common makes of concrete mixing plants**. The **extensive spare parts range** is available for ring-pan mixers, single and double shaft mixers and planetary counter-current mixers.

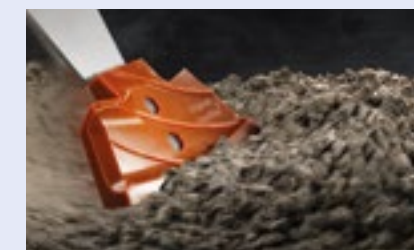
In order to ensure the **short-term security of supply** to the customers, the articles are stocked by main dealers in many European countries. The main dealers are supplied from our **large main warehouse in Witten/ Ruhr**, where habermann materials concentrates on the core business mixer spare parts and custom made **wear resistant plastic parts**.

Discover your ace for extreme conditions!

The perfect mix

for ready-mix concrete and precast concrete plants

Mixer tools made of
Hawiflex® 4



Ace: with guiding ribs

Spare parts catalogue
online 4

Funnel lining 6
centric prefabricated part or
concentric with plates



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Perfect for
ready-mix
concrete

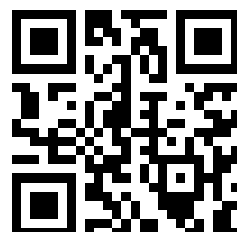


Your mixer tools: durable and light: Hawiflex®!

Over **40 years of experience** in concrete mixers with Hawiflex®, ensure that you get the decisive **service life advantages** compared to other PU systems, and result in a **comprehensive supply range**, which is now also available in an online catalogue: Countless items are available Europe-wide **ex warehouse** and are delivered to you in a very short time. In addition to that, we also manufacture **spare parts according to your individual specifications**. Request our expertise!

Hawiflex® advantages:

- Cutting-resistant
- Wear-resistant
- Oil-resistant
- Easy to clean
- Lining protective
- Noise reduction of up to 50 %
- Energy savings



Online catalogue:
www.habermann-materials.com

Mixing tools optimised – Patented flow mechanics extend service life

The use of **twin-shaft mixers** is very popular for the manufacture of ready-mixed concrete. Well-functioning middle and side blades are a fundamental instrument for concrete production. Due to short cycle times for the concrete batches, they are exposed to **considerable wear** and have to be replaced at regular intervals.

Light replacement mixer tools developed by HABERMANN have significant advantages: Hawiflex® middle and side blades for twin-shaft mixers ensure **weight reduction** and also offer a patented surface-plus for **durability**. The discharge of the material mixture is channelled sideways along the surface of the blade to guide it away from the main area of wear. This is done by means of lots of **guiding ribs**, which are affixed to the blade. Through this principle derived from fluid mechanics the wear on the outer edge is reduced considerably, which extends the service life of the mixer tools.

Mixing blades with the patented guiding rib are being used frequently and have become very popular. This paves the way for further Hawiflex® advantages for twin-shaft mixers: The mixing plant and maintenance staff benefit from **reduced cleaning time** through less concrete residues. Mixer tools can thus be adjusted a lot quicker and easier.

Motivated by this success, HABERMANN will further develop the advantages of the new guiding ribs and will remain **your innovative partner** with regard to polyurethane technology.

The whole
product range with
just one click!





Wear-resistant lining of a conical feed funnel using plates



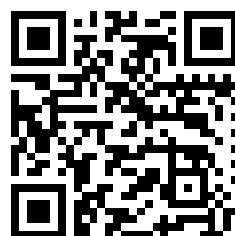
Triple the service life of your funnel!

Funnel linings made of Hawiflex® are delivered as prefabricated parts in a centric design. The **non-stick properties** ensure a notably shorter cleaning time in comparison to steel funnels. The **selfcleaning effect** enables an extremely long service life in comparison to steel funnels and to wear lining with rubber. But that is not all! When there is a one or two-sided impact of the concrete, the funnel can early enough be turned by 90° or 120°, respectively, to **double or triple the service life**. This is easily done, as the wear lining is only loosely mounted or lightly screwed in.

Hawiflex® advantages:

- Easy to clean
- No need for heavy tools such as pneumatic chisels, for cleaning.
- “Denting” through “hammer cleaning” ruled out
- Easy to exchange: No complicated assembly or bonding necessary
- Resistant to standard cleaning and formwork oils
- Available in all desired dimensions
- Available in variable thicknesses

Easy to clean:
-> Application video!



Keeping an eye on wear: Coneflex®!



Discover the advantages:
coneflex.de!

Depending on the application, the Coneflex® funnel insert can easily be rotated up to three times. An early detection system warns the operator in time that the funnel must be turned. This functions due to the Coneflex® two-colour system. The inner 8 mm thick layer is white. The 2 mm thick outer layer is red. In this way, you can see when the white layer is worn and your funnel insert must be turned. You minimise the risk of readjusting the funnel too late and prevent downtime due to complex repair work.

Coneflex advantages:

- Early detection through the two-colour system
- Thickness of layers: inside 8 mm in white, outside 2 mm in red
- Easy to exchange: No labour-intensive assembly and adhesion necessary



Concrete discharge hoses

Concrete discharge hoses in ready-mix concrete plants are subject to special demands.

But here HABERMANN also has something to counter wear:



Video
evidence!

1. Truckflex® – the patented two-layer hose with cut-proof outer and wear-proof inner layer.

The **seamlessly produced** hose is **highly flexible and elastic**. Nevertheless, it still has good shape stability.

The two-colour system ensures a safe process through wear progress recognition. The **harder outer layer** prevents cuts from mounting clips or damages of mixer truck inlet funnels. The **softer inner layer** offers the proven protection against abrasive wear.

Hawiflex® advantages:

- Reduced adhesion of concrete residue
- Smallest inclination to material stopping
- Good resistance to formwork oil
- No swelling – no embrittlement
- Signal red for good visibility
- Up to 40% less weight in comparison to conventional hoses
- Hugely improved service lives through longer replacement intervals
- Seamless



2. The classic, tried and tested concrete hose – customized according to your dimensions.

- Diameters and lengths on request
- Cylindrical and conical design possible
- Very flexible – therefore very easy to assemble if the diameter deviates
- Dimensionally stable over the complete service life
- High resistance to cuts
- Good resistance to formwork oil
- Weather-resistant
- Increased safety due to its white colour



Recycling – efficient and environmentally friendly

Wear-resistant separating and scooping blades, which are made of Hawiflex® PU plastic, serve to process concrete residues and concrete waste water efficiently and in an environmentally-friendly manner in recycling plants.

The blades convey the concrete residue sludge, thereby sparing the metal lining as Hawiflex® mixer tools are very elastic.

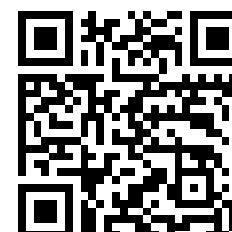
Hawiflex® advantages:

- Cost savings through longer replacement intervals
- Mixer tools, such as separating and scooping blades, are available for recycling plants of all common makes
- Impact-resistant
- Little adhesion of concrete residue reduces cleaning time.



Working with Hawiflex® Sheets

Set your own
standards!
-> Example-Video



The most cost-effective option to install effective wear protection are sheets made of the wear-resistant PU plastic Hawiflex®. The sheet is **very flexible, and can be simply cut into shape and processed onsite.**

The applications are manifold:

Hawiflex® has a noise-dampening effect and, as a wear lining, protects chutes, troughs, funnels, bunkers, silos, mixers, slides, chutes, buckets, loading equipment, walls and floor sections... in the glass, recycling and bulk material industry, in plant construction, in maintenance work, in sand and gravel dredging and in the concrete industry.

- Resistant to cuts
- High tear propagation strength

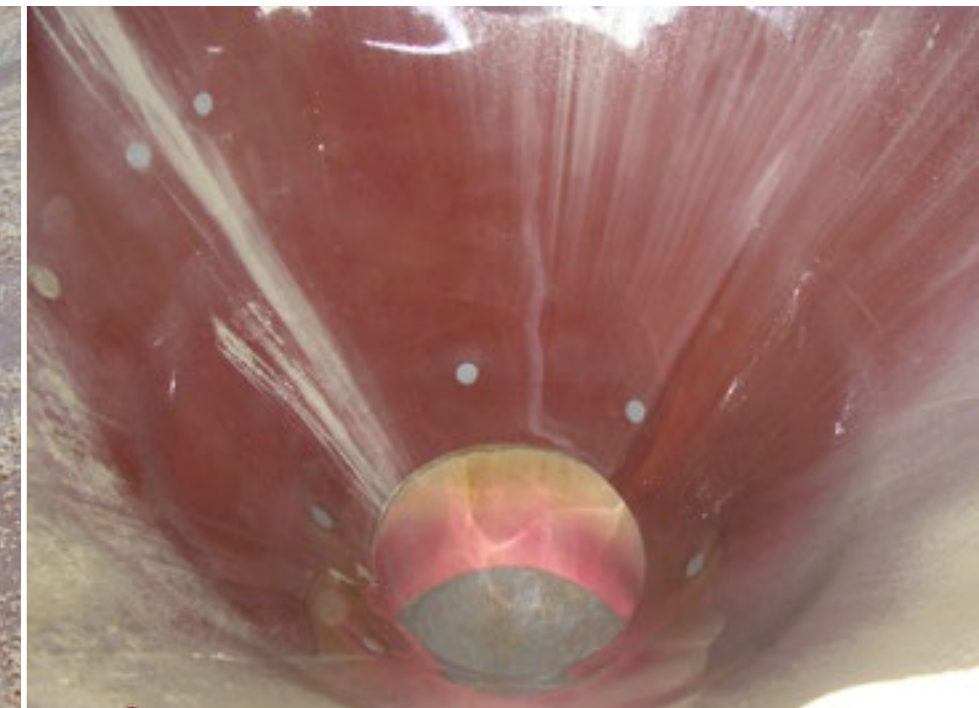




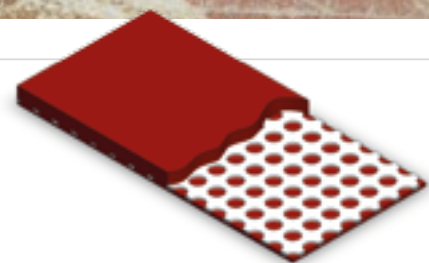
Wear lining a concrete chute



Wear lining of a sand bunker



Wear-resistant lining of a conical feed funnel in the bulk material industry



1. Standard sheets

The standard plates are available in the **dimensions** 3000x1000 mm and 2000x1000 mm with a **thickness** of 1 to 40 mm.

For use in wear protection, **selecting the shore hardness** is an important criterion. The Hawiflex® standard plate can be optimised to the respective application by adjusting its hardness in the range from 65 ° Shore A to 90 ° Shore A.

In accordance with your instructions or drawings, the Hawiflex® wear protection plates can be **produced** in any size and shape. In addition to that, you also have a large range of colours to choose from.

Hawiflex® advantages:

- Highly flexible
- Good sliding properties
- Excellent non-stick properties
- Noise-reducing
- Simplifies cleaning processes

2. Easy assembly thanks to perforated metal plates

The perforated metal plate cast into the Hawiflex® plate allows simple attachment, e.g. using bolts, and reduces elongation and compression to a minimum. The design stiffness of the plates makes it possible to reduce the need for expensive plate structures and to use a cheaper, frame-like structure. The sheets can easily be cut to size and drilled onsite.

For the joints, a wear-resistant filling compound is available under the trade name Hawipair®. Page 15

Hawiflex® advantages:

- Ideal for coating larger areas
- Good sliding properties
- Excellent non-stick properties
- Noise-reducing
- Simplifies cleaning processes

3. Can be easily adjusted, even to complicated geometries: Expanded metal sheets

You can also assemble these sheets with screw connections. Compared to the perforated metal sheets, the cast-in expanded metal offers the option of optimally fitting the sheet to the existing component geometry. The sheet with expanded metal is ideally used as wear protection for conical and oval components, e.g. in funnels and chutes. In the bulk material industry, the sheets are used, amongst other things, as wear lining for bucket railways, lifting buckets, elevator buckets and transfer stations.

Hawiflex® advantages:

- Good sliding properties
- Excellent non-stick properties
- Noise-reducing
- Simplifies cleaning processes

When sealing discontinuities and during repairs, Hawipair® is put into action. Page 15



4. Patented Hawiflex® - functional sheets – they just work!

Hawiflex® advantages:

The separation layer provides a perfect bond between the component and the Hawiflex® system. This is also formed by the **predetermined breaking point**, which makes the subsequent removal of the old covering easy. On the thin residual covering of the separation layer, you can without any complicated processing of the subsurface – **immediately adhere a new Hawiflex® functional plate**.

- Highly wear-resistant
- Single substrate treatment (cleaning, blasting, degreasing, drying)
- Simple assembly through gluing with contact adhesive
- Easy renewal
- Cost savings
- Reduced environmental pollution, no decoating
- Sound insulation and attenuation due to the thicker separation layer

Joints and discontinuities are often the reason for premature faults in the coating. For this, use the wear-resistant Hawipair® filler system as a **joint filler** and to **seal** recesses to the old coating and the edge of the plates. Page 15

Dimension of the plates:

1000 x 1000 mm

... with 2mm separation layer:

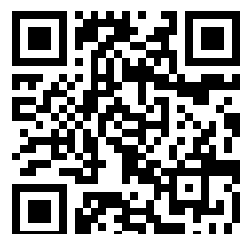
Separation layer: 2 mm
plus Hawiflex®: 5 mm or 8 mm

... with 8mm insulation layer:

insulation layer: 8 mm
plus Hawiflex®: 5 mm or 8 mm

HAWIFLEX®

Separation layer



Take a look at the video!



Repair elastic linings yourself professionally

Hawipair® characteristics:

- Wear-resistant
- Good chemical resistance
- Highly elastic
- Resistant to microbes
- Protected against hydrolysis
- Resistant to seawater
- Very good abrasion resistance

Hawipair® is a trowelable, elastic material with a polyurethane basis, which is used to repair worn coatings. It features **good abrasion values** and can also be used as an adhesive. Processing the material is simple and can usually be carried out without difficulty at the application site.

It couldn't be simpler:

With a **mixture ratio of 1:1** you don't need a scale. The **package sizes correspond to the mixing ratio**. This eliminates dosage errors.

We just like it uncomplicated. Take a look for yourself!



Characteristic	Value	Unit	Testing method
Shore Hardness	85 °	Shore A	DIN 53505
Abrasion value	30	mm³	DIN 53516
Tensile strength	17	N/mm²	DIN 53504
Elongation at break	450	%	DIN 53504

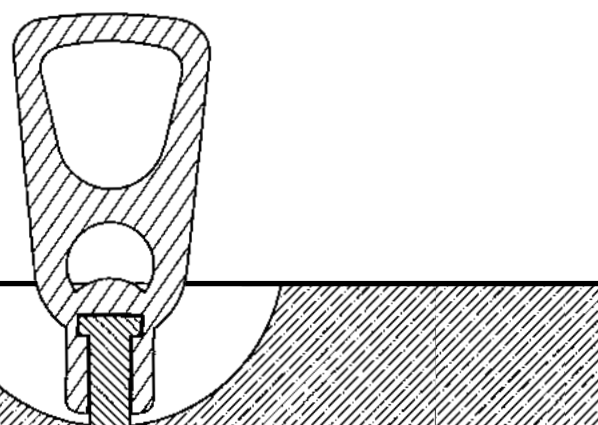
The technical data mentioned here is a general guideline. The determination was made under optimal circumstances in the materials laboratory. We cannot accept liability for the suitability of the product for the respective purpose envisaged by the customer. We recommend that you test the usability in preliminary experiments. Please do not hesitate to contact us, should you have any questions.

Extensive accessories

Motivated by the success of the Hawiflex® mixer blades, HABERMANN has found many more fields of application for highly wear-resistant parts in the past years. We offer you cost-effective and - due to the low rate of wear - even cost-reducing items, especially for prefabricated part transport.

Firmly anchored!

Anchor balls are used in the precast concrete industry for safe transport of heavy and/or large components. As a placeholder to create space for the uptake of the load-handling device and for the fixation of the anchor which is to be cast in. Hawiflex® offers you a noticeably longer service life than rubber and **very high precision.**



Concrete pipe protection for forklift truck shoes

As a Hawiflex® prefabricated part, this protection is **cost-effective and flexible.** Assembly and dismantling are really very easy.

Hawiflex® advantages:

- No damage to and no paint residues on the concrete pipe
- Increased transportation safety
- Individually replaceable
- Suitable for bolted and welded joints due to the mounting bracket



Everything completely under control!

Gripper strips made of Hawiflex® are available for automated repositioning and packaging machines, forklift trucks, production plants and lorry transport.

Hawiflex® advantages:

- The very **good grip** really saves you time: Stones and pallets need not be grasped absolutely horizontally.
- Reduce personnel and maintenance costs: The material doesn't become brittle and, if compared to rubber, offers a far **longer service life.**
- **Avoid material damage and abrasion residues** as it is the case with rubber.

Example
video:





Exceptionally durable concrete spray nozzles

For use in mining and tunnelling technology, we manufacture **your customized, application-oriented concrete spray nozzle according to a drawing or model** for an exact spray pattern.

Hawiflex® advantages:

- Reduces maintenance costs
- Resistant to formwork oils and atmospheric influences
- Less abrasion and higher remaining useful life, in comparison to rubber



Side guide protection for conveyor belts keeps everything flowing

The lateral guides for belt scales are protected by the **protective strip made of Hawiflex®** and also secures the flow of material. A **perforated metal plate** contained in the material serves to fasten and stabilise. The pure **polyurethane part** is optimally dimensioned and is in direct contact with the conveyor belt.

Hawiflex® advantages:

- Can be combined in desired heights and lengths
- Individually replaceable



Convey with less wear with impact protectors!

Impact protectors made of Hawiflex® can be used at feed and transfer points of conveyor belts. They use the catch tray principle for self-protecting wear reduction.

Standard size:
650 x 275 x 60 mm

Low dead weight:
only approx. 7.2 kg

Hawiflex® advantages:

- Suitable for grain sizes up to 32 mm
- No shattering of coarse gravel upon impact
- Shock and cut resistant
- Noise-reducing
- Easy assembly thanks to stay bolts mounted on the reverse
- Can be retrofitted for existing systems
- Low maintenance due to long service life



Do you have any other areas of application in mind for Hawiflex®? Just tell us and request our expertise!

Mixer linings

Mixer linings made of Hawiflex®: light. And easy to clean.

Because they are so easy to clean, Hawiflex® mixer linings are very effective, especially in roof tile production and in concrete block production. This is especially noticeable if there are lots of **colour changes**. Added to this, there is also **no danger of breakage** with Hawiflex® wear linings during assembly and cleaning, in contrast to wear linings made of cast iron.

Hawiflex® advantages:

- Considerable noise reduction
- Resistant to standard cleaning and formwork oils
- Sturdy design thanks to cast-in steel core insert
- Easy assembly thanks to cast-in bore holes
- Floor linings with a material thickness of 25 mm
- Side linings with a material thickness of 22 mm
- Ideal in combination with automatic high pressure cleaning

When sealing discontinuities and during repairs, Hawipair® is put into action. Page 15



Hardness: Hawiguss 450

Wear-resistant Hawiguss mixer tools for all common mixers complete our Hawiflex® **product range for extreme demands**, which are created when e.g. crushed stone and basalt are added.

Hawiguss is a further development of NI-HARD. By means of a special form of heat treatment, the structure of Hawiguss 450 is rendered homogeneous, thereby achieving a **particularly high degree of hardness** and offering a very long service life in this combination.

- Comprehensive range of products for all common mixer types ex warehouse

Our classic for your mixer

Hawiguss 410 is a traditional electric cast iron developed for the **floor and side linings** of concrete mixers. With the characteristics of a chrome-nickel chilled cast iron, it excels with **a very long service life under extreme conditions of use**.

Our extensive supply range offers

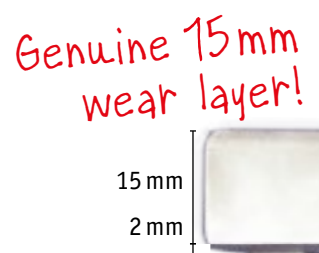
Hardnesses of

approx. 470–520 HB (Brinell hardness)
approx. 48–52 HRC (Rockwell hardness)

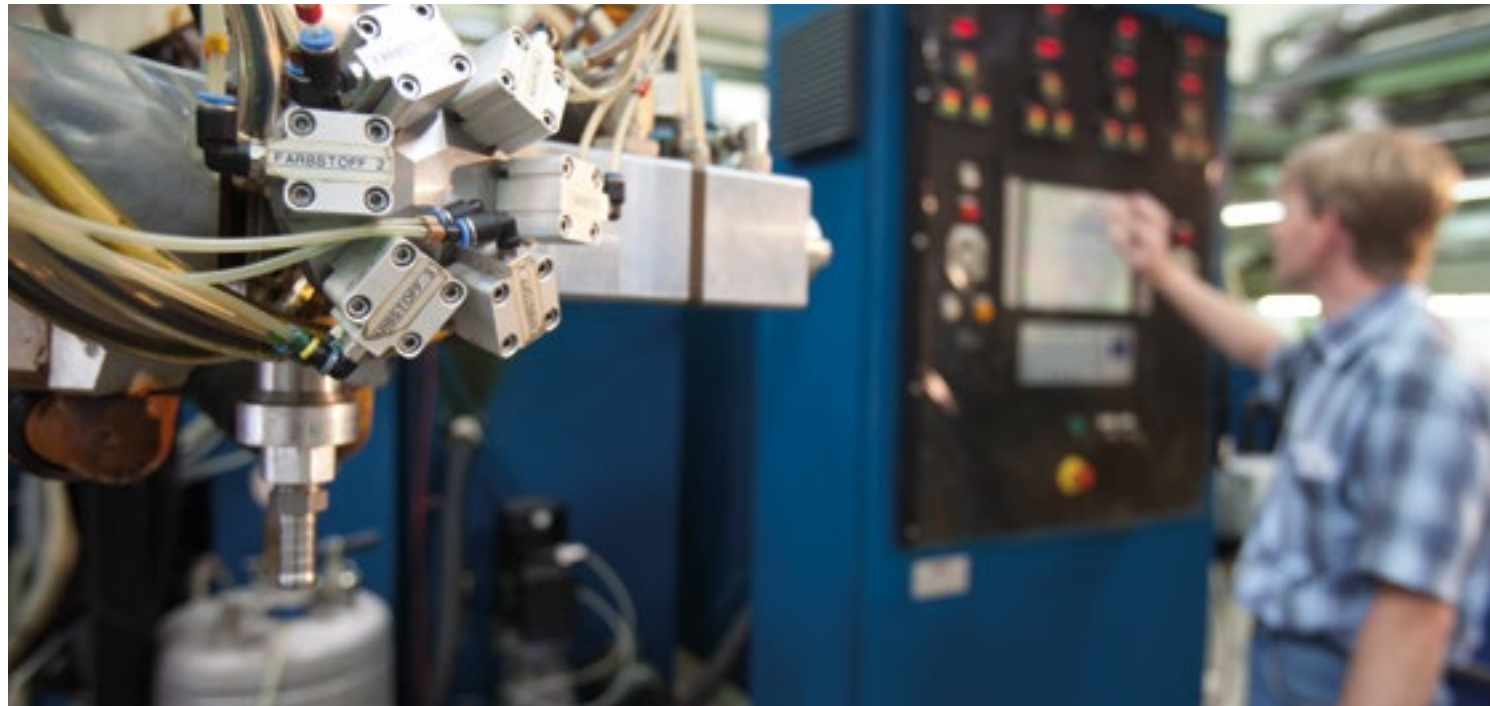
and material thicknesses of
15+2 mm for bottom and side linings for pan mixers

Hawiguss advantages:

- The same material hardness throughout
- Uniform wear behaviour through the entire cross-section
- Transport-friendly due to small segments, which can be exchanged individually.
- Accurately fitting subsequent supplies due to consistent pattern equipment
- 4–5 times the service life of St. 60, in the case of concrete with a round grain content between 70–90%



In addition to products made of Hawiflex® and Hawiguss, we can also deliver steel products. Contact us!



What's behind the perfect mix?

It's a science in itself to manufacture the perfect mix for a mixing tool, which is both durable and wear-resistant, combining different components, processing systems and additional agents. We have been doing nothing else in the last odd 50 years with Hawiflex®.

Experience that pays off.

Our significant market position is mostly due to the permanent research for new and even better suited materials and the further development of our existing product portfolio.

In combination with well-founded knowledge about all current and future process requirements, this interplay guarantees product innovations and individual solutions for your applications again and again.

We take a close look.

We investigate in detail the interaction of all components and parameters under laboratory conditions, and naturally also in practice, with the most modern measurement and analysis technology.

These informative measurement records and feedback from our customers, in turn, flow into new and further development of our mixer tools and build the basis for their exceptional quality.

A service which you will come to appreciate.

In our technology centre we don't only test all our products, but we are also able to simulate a lot of customer applications. In this way, we ensure that our products are optimised for customer requirements.

**And what can we do
for you? Request our
expertise!**

You will find a detailed description of our products in our online catalogue. We will be pleased to inform you personally about our program and help you to find suitable products for your application. We will advise you with our complete knowhow of customized wear resistant plastic parts.

We are at your service.

Simply contact us.

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