



Gebhardt Stahl

Part of **Gebhardt** Group

Reinforcement sections for PVCu window systems



EN

Precision meets versatility: the diversity of Gebhardt-Stahl

In our product range you will find steel reinforcements for all common PVCu door and window systems, thermally broken sections to comply with the latest standards and special designs entirely according to your requirements. We produce over 2500 high-quality profile geometries on our modern machines. New profiles are constantly being added. Our customers therefore include system providers and various manufacturers from over 50 countries.



Reinforcement sections

- Reinforcement sections for all PVCu window systems, usually in stock – also available in fixed lengths (upon request)
- Laser-welded tubes
- Coupling sections
- Perforated sections
- Stiffening elements for roller-shutter housings
- Roller-shutter shafts
- Bespoke sections (upon request)
- As YOU like it – unprecedented solutions to unprecedented ideas!



Door reinforcements

Design options:

- Milled
- Lasered
- Punched

Bespoke solutions as well as customised hole designs and patterns are available!



Thermally broken sections

- Fit all PVCu window systems
- Protect natural resources
- Save energy
- Reduce the U_f-value
- Help to comply with the GEG2020
- Create a pleasant indoor climate

Innovative. Flexible. Made by Gebhardt!

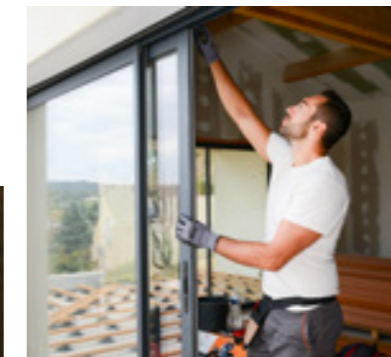
Gebhardt-Stahl offers you more than just reinforcement sections. Although our focus is always on the production and optimisation of our products, we also offer a range of other services.

For us, innovation and quality go hand in hand. It starts with the raw materials, where we work very closely with leading steel works, and continues with the ongoing expansion of our machinery. At the same time, we expand our knowledge and expertise through research – as well as memberships in industry committees so that you benefit from future-oriented developments.

Even the best profile has to be available to you at the right time. We work closely with reliable logistics partners to ensure that we can supply our customers in Europe and worldwide on time, and in line with their requirements.

Our service

- Cut-to-length service
- Design drawing complete with structural (“statics”) information
- Customised packaging
- Low-burr cutting edges
- Special solutions
- Flixo calculations
- 3D sample printing



Fast delivery from stock: Our steel reinforcement sections for PVCu window systems are generally in stock and can be delivered at short notice. Of course, this also applies to our door leaf and frame profiles.



Our quality features become your advantage



At a glance

- Leading supplier of steel reinforcement sections for PVCu window and door systems
- Full-range supplier of ventilation accessories and profiles
- Cold-rolled special profiles / custom profiles
- Processing approx. 120,000 tonnes of steel per year
- High storage capacities
- Fast delivery capability

Reinforcement sections for PVCu window systems

2.500
different
geometries

In focus: our standard profiles for PVCu windows

Easy maintenance, cost-effective production, variety of colours and shapes as well as durability are reasons for the popularity of PVCu windows. Our product range includes high-quality reinforcement sections for all common PVCu window systems.

Excerpt from our
references



deceuninck

FINSTRAL

GEALAN

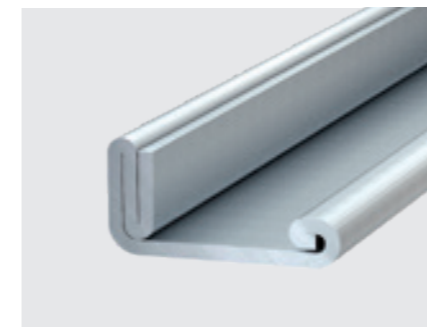
Kömmerling
TODAY FOR TOMORROW

profine
INTERNATIONAL PROFILE GROUP

REHAU

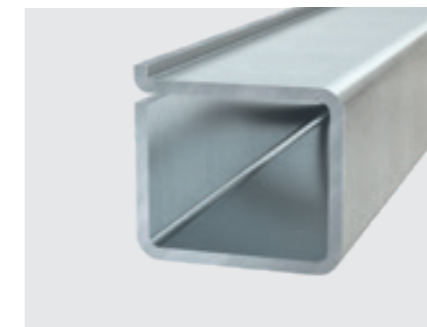
SALAMANDER
myWindow

VEKA
The Quality Profile



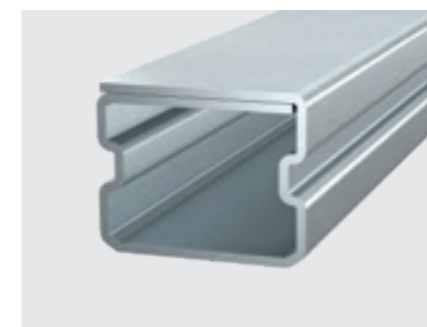
Sash sections

- For side entrance doors
- For windows
- For balcony doors
- For lift and slide doors
- For front doors



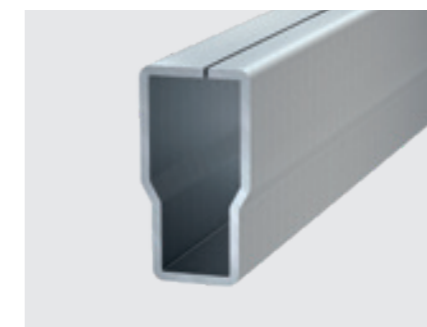
Frame sections

- For wide and narrow frame entrance doors
- For lift and slide door frames



Post sections

- For wide and narrow posts/transoms
- Available in custom lengths



Coupling sections

- For concealed couplings
- Available in custom lengths

More standard profiles on request

Wide range of door leaf profiles

More than
150 different geometries and
600 different recesses



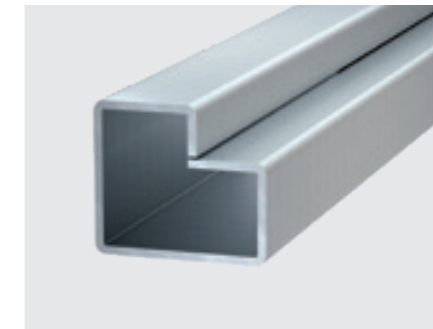
In focus: our standard profiles for PVCu doors

Especially coloured PVCu doors need steel reinforcements for static reasons. This means that they can withstand daily loads and offer sufficient protection against burglary. Our extensive product range includes a wide variety of door leaf profiles for diverse requirements.



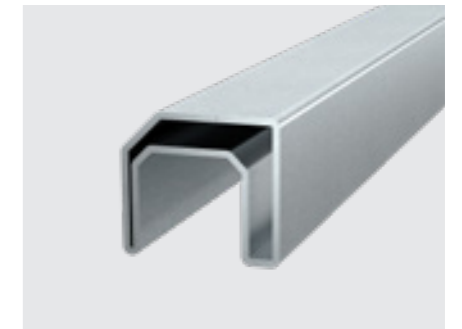
Steel reinforcement sections for front doors

- Steel reinforcement sections
 - > for front door sashes
 - > for front door frames
 - > for front door posts



Steel reinforcement sections for side entrance doors

- Steel reinforcement sections
 - > for side entrance door sashes
 - > for side entrance door frames
 - > for side door posts
- Custom lengths available



Steel reinforcement sections for lift and slide doors (sashes)

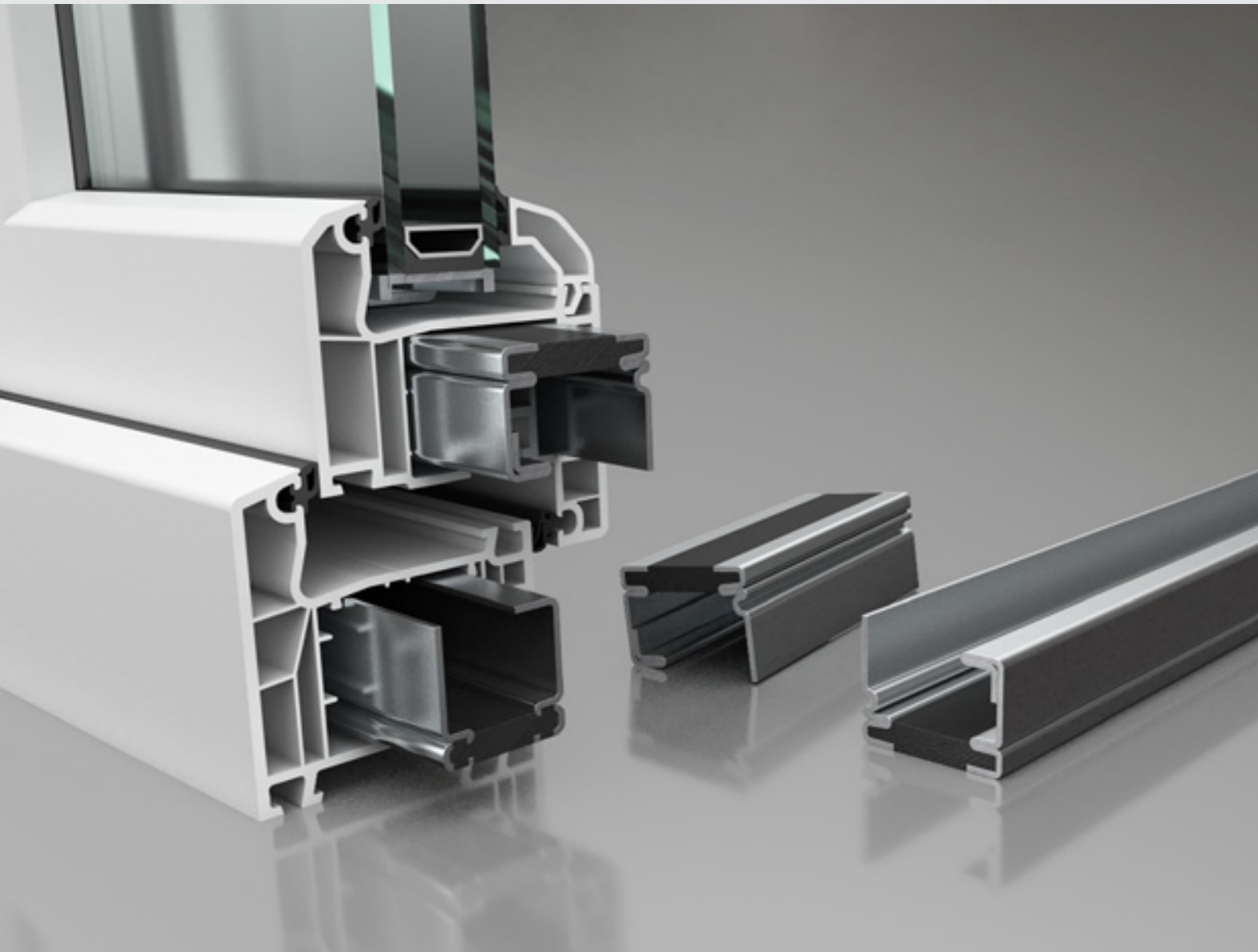
- Steel reinforcement sections
 - > for fixed and moving elements
 - > for trolley mounting
- Frame profiles
- Milled sections for lift and slide doors
- Custom lengths available

Overview

- For front doors, side entrance doors and lift and slide doors
- Ready for use according to your specifications
- With or without mitre cut
- Lasered, punched, milled
- Wall thickness from 1.5 to 3.0 mm
- Welded and non-welded profiles
- Available in different lengths



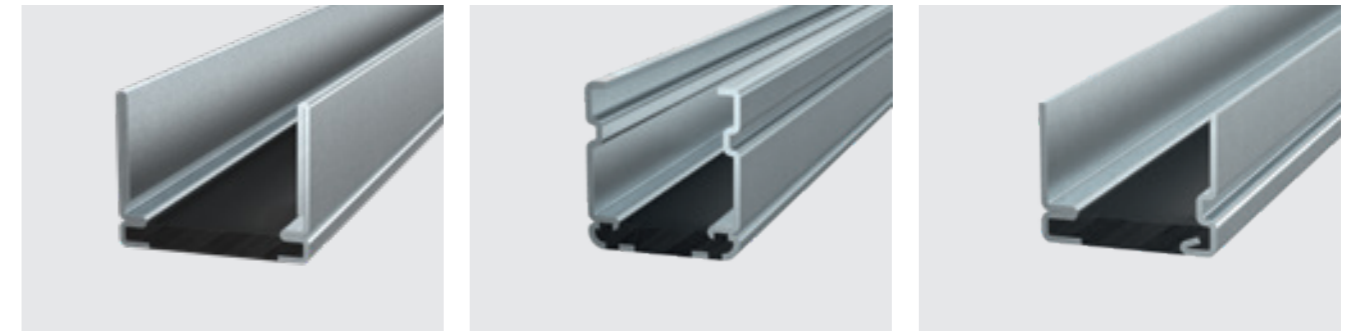
Thermally broken sections



Benefits at a glance

- Thermal separation with polyurethane
- Energy saving through improved energy efficiency
- Same handling and installation as with conventional reinforcement sections
- The PU material can also be screw-fitted
- Optimisation of the U_f value of existing window systems by up to 15 %
- Suitable for passive houses

In focus: our standard profiles



The high-quality profile solutions consist of perforated steel legs and a connecting polyurethane bridge, which is cast with the steel legs during production.

Our thermally broken sections are available as replacements for numerous standard reinforcement sections and various plastic window systems, such as frame, sash and mullion profiles.

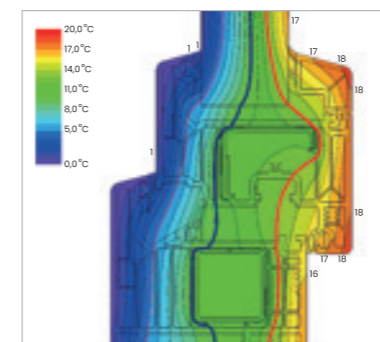
In addition, we can also offer every window profile as a thermally broken section. With thermally broken sections you have the option to further reduce the U_f -values of the manufactured windows - without compromising the statics, even with large, structurally difficult elements.

U_f values

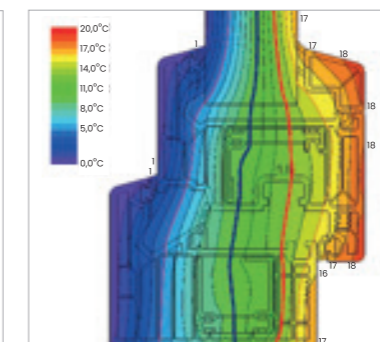
- Gebhardt's thermally broken sections have been certified by the German Institute for Window Technology (IFT) and are proven contributors to saving energy
- Conservation of resources
- U_f value reduction of up to $0.2 \text{ W/m}^2\text{K}$
- Compliance with the requirements of the German Buildings Energy Acts ("Gebäudeenergiegesetz" / "GEG 2020")

We are happy to calculate the U_f value for the PVCu window system of your choice, along with the value improvements to be expected from the use of thermally broken sections.

Isothermal curve

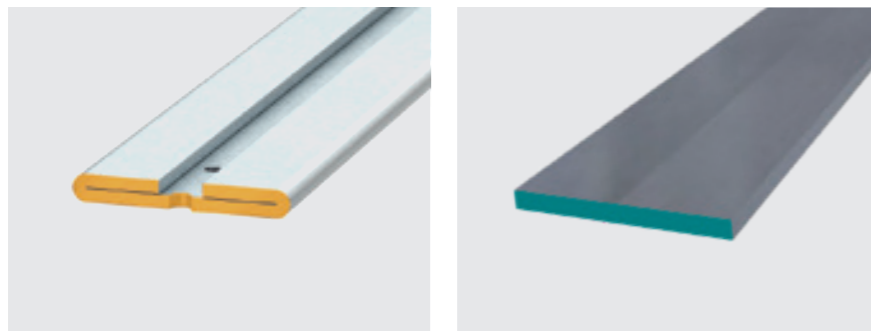


● Isothermal curve: standard steel section



● Isothermal curve: thermally broken section

Glass rebate reinforcements for all systems



Flat steel replacement

- Quick and easy handling
- Cost and labour savings compared to conventional flat steel
- No drilling required
- Suitable for retrofitting and available for all systems
- Perforated every 300 mm

Flat steel

- Available for all systems
- Offered in many different variants ranging from 16,5 x 2,0 mm to 140 x 10 mm
- Different variations available
- Batch-galvanised (discontinuous galvanising)



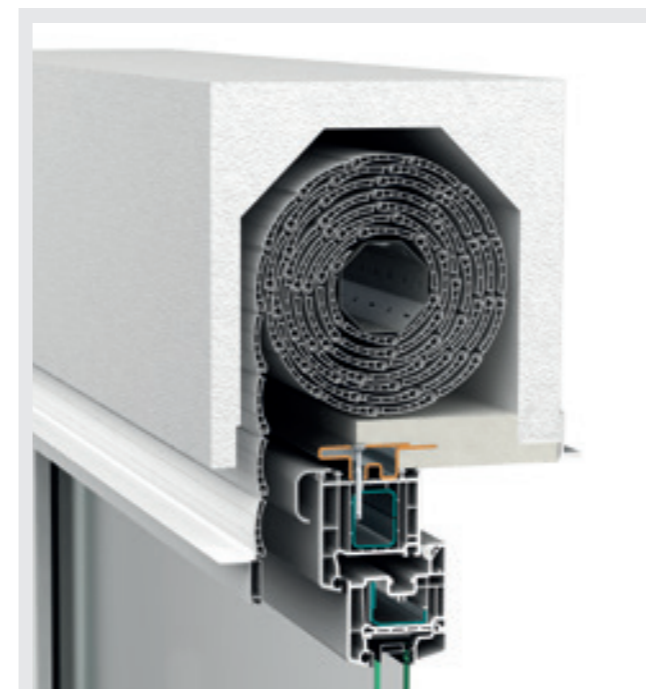
- Gives large and coloured window elements more stability
- For use with optimised waste
- Time saving due to quick and simple processing, as it is pre-punched

Reliable stiffening elements for roller-shutter housings



Stiffening elements for roller-shutter housings

- Ideal structural solution for PVCu windows with building-integrated roller-shutter housings
- Alternative solution to thicker frame reinforcements or flat steel
- The reinforcement sections for roller shutters provide a significantly better static stability than conventional solutions
- Reliable stabilisation even with large window elements

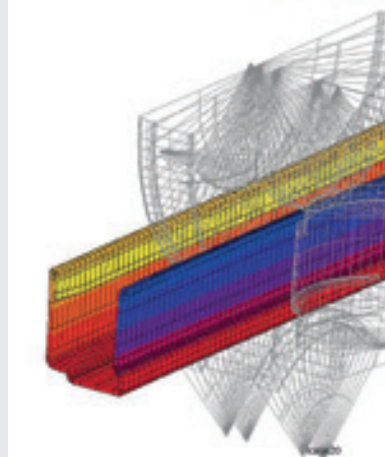


Our extensive product portfolio includes stable roller shutter shafts in addition to static unwinding profiles.

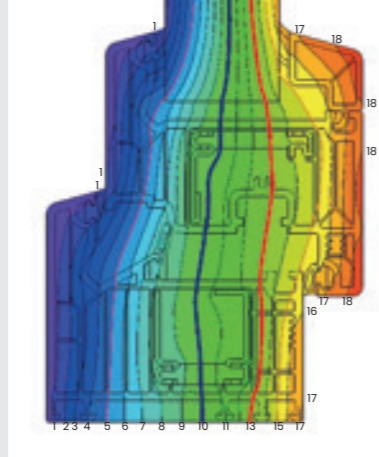
Roller shutter shafts

- High-quality octagonal steel shafts for maximum stability
- Available with various perforations
- Ideal for a wide range of fastening types

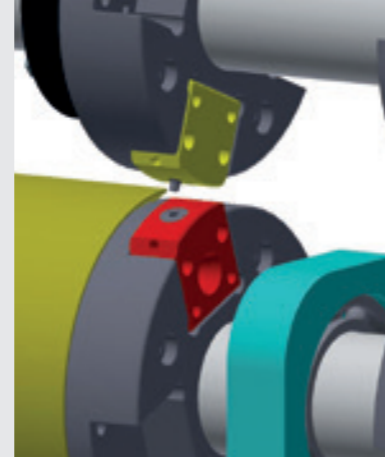
Technical precision



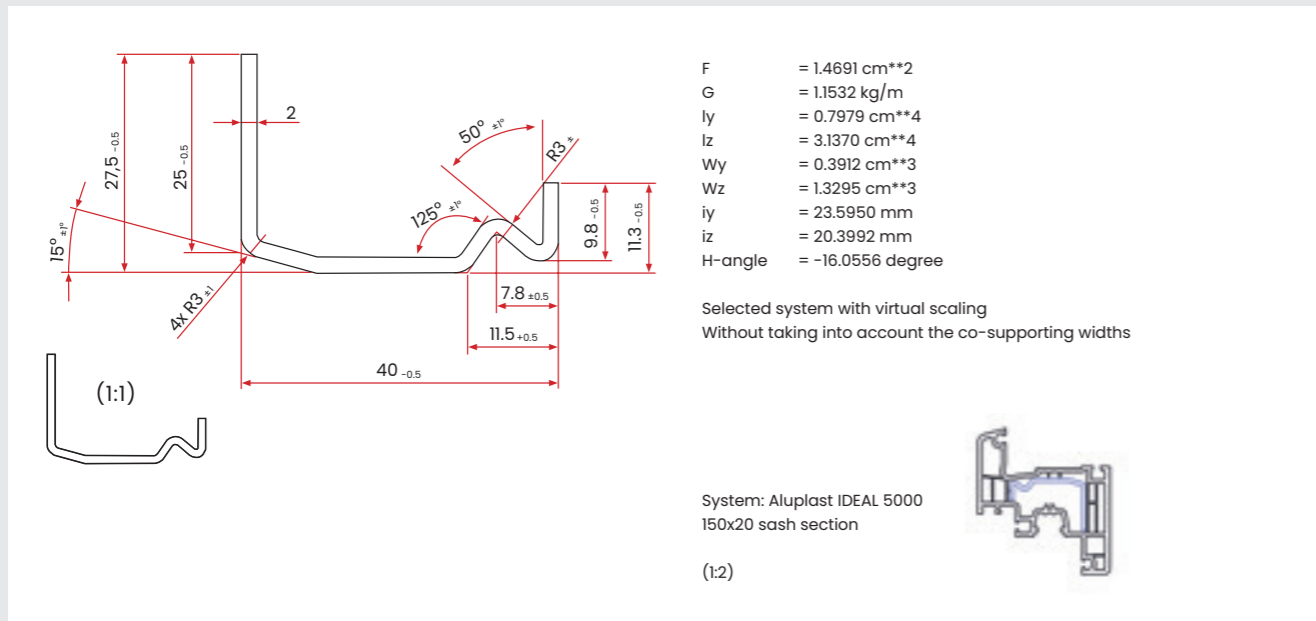
Simulation module **COPRA FEA RF** – designed for the simulation of roll forming processes.



Flixo Software calculates the U_i value of window systems. It enables visualisation of weak points by means of isothermal curves, temperature curves and thermal flux (heat transfer) lines.



Autodesk Inventor is a 3D CAD software used in the design and engineering of parts and components.

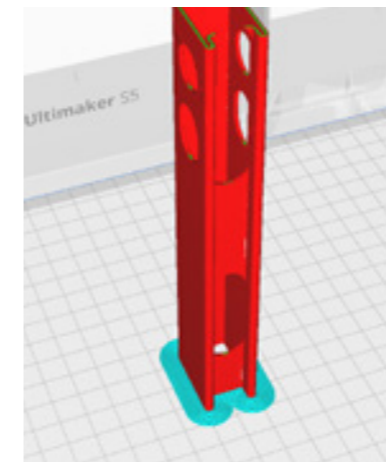


Drawings showing tolerances as well as static calculations for your profiles

Perfectly customised

Free 3D models for the profile of your choice

With a lot of know-how and precision, we produce free 3D samples for your profiles. These 30cm long sections are made from a particularly strong, bio-based PLA plastic and are created with the fused deposition method.



Transfer into a 3D model and preparation for the printing process through model slicing

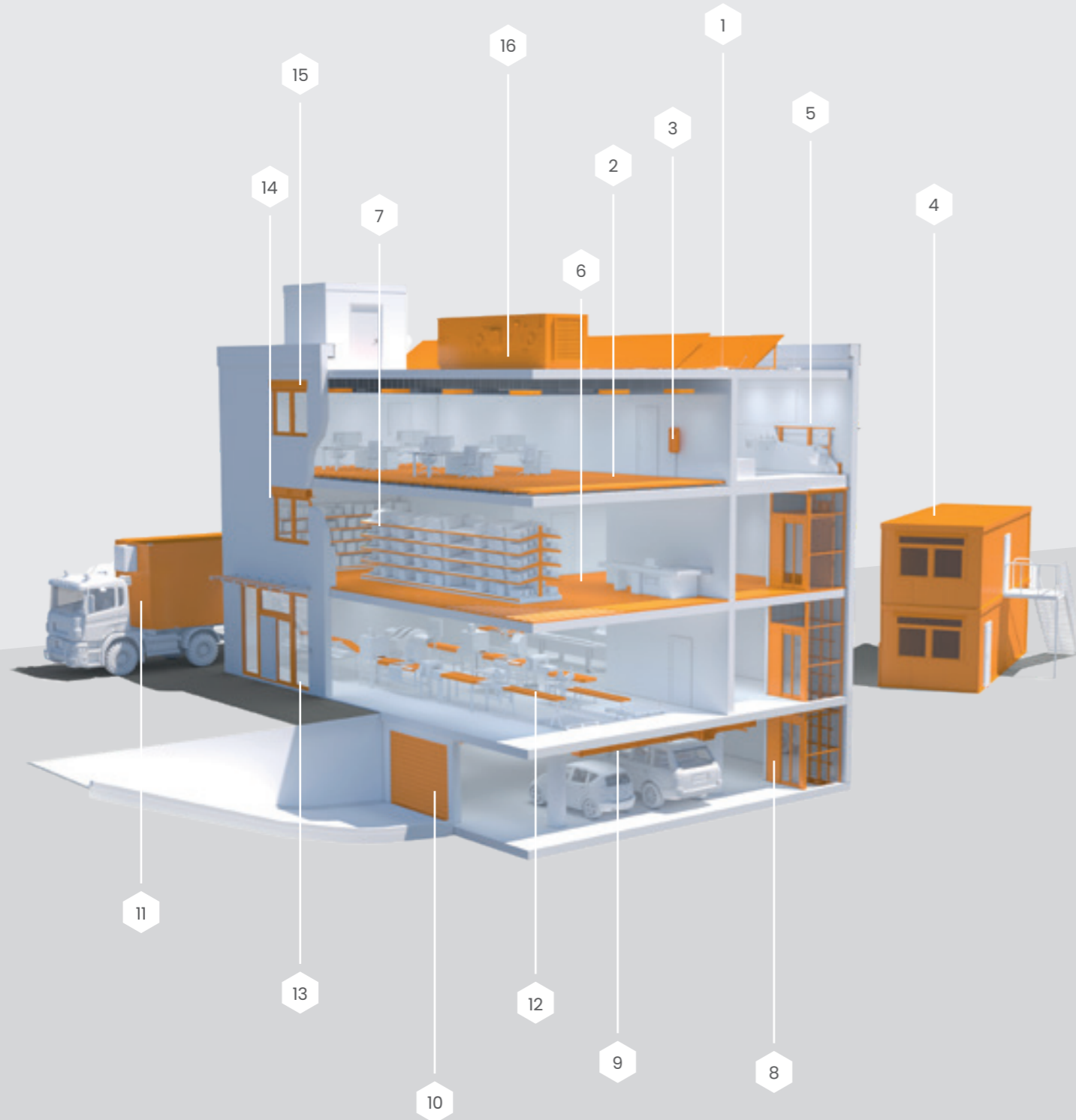


Printing of samples by the Fused Deposition Modeling (FDM) technique

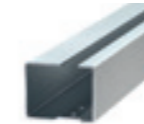
Your benefits

- Fast delivery of samples
- Verification of dimensional accuracy
- Free delivery
- For a "hands-on" experience: Haptic and thus tangible demonstration model

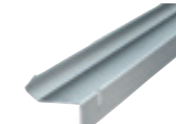
Location: everywhere



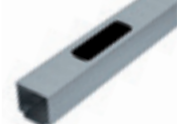
1
For solar panels



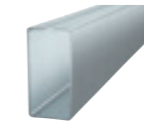
7
Angled sections
for shopfitting



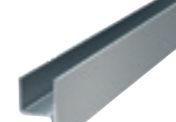
13
Milled
reinforcement
sections for
PVCu doors



2
Double-lip
channel sections
for raised floor
structures



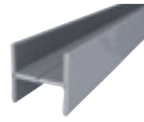
8
Sliding door
guide rails
for lifts



14
Roller-shutter
shafts



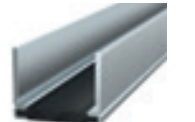
3
For control
cabinets



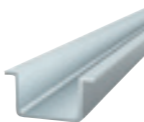
9
Slip-on flanges
for air ducts with
butyl sealant to
tightness class D



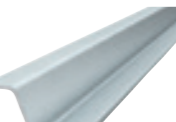
15
Thermally broken
reinforcement
sections for PVCu
windows



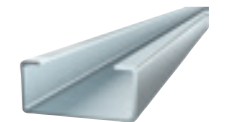
4
Top-hat sections
for container
construction



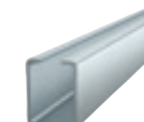
10
Fire doors



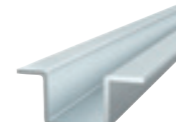
16
Frame profile
for AHU
 housings



5
For plumbing
framework /
Pre-wall assembly



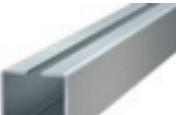
11
For truck
bodywork



6
Heat-conducting
plates for under-
floor heating



12
Double-lip
channels for
chain conveyor
systems



Available materials

- Pickled steel
- Galvanised steel
- Stainless steel grades:
e.g. AISI 304, AISI 316L etc.
- Aluminium: e.g. AlMg3
- Other non-ferrous metals
- Hot-rolled strip / Cold-rolled strip

Technical options

- Section lengths:
300 mm - 12,000 mm
- Max. section height: 150 mm
- Max. section width: 350 mm
- Material thicknesses:
0.3 mm - 4.0 mm
- Strip widths: 20 mm - 400 mm

Section types

- Welded sections
- Thermally broken sections
- Channel sections (U-profiles)
- Double-lip channels (C-profiles)
- Single-lip channels (G-profiles)
- Top-hat sections
- Flat steel
- Slotted tubes
- Angles (L-sections)
- Z-sections
- Sharp-edged sections
- Custom-rolled sections

Processing/Adaptation

- Mitre cut
- Deburring
- Perforation
- Counterboring
- Cutting to length
- Laser welding
- Punching
- ... and much more



Please find more information
on our website!
www.gebhardt-stahl.com

Gebhardt Group

Efficiency in profiles



The **Gebhardt Group** is an internationally active corporate group with subsidiaries in Germany, the Netherlands, Poland and the United Kingdom. With decades of experience and a deep understanding of the diverse demands of various industries, we provide specialised and innovative solutions across four key business areas: Construction, Air Duct Solutions, Industry and Energy.

We specialise in the **processing of steel** and use the unique properties of this material to create innovative solutions. Thanks to its strength, flexibility and durability, steel is the ideal material for a wide range of applications. Whether in construction, mechanical engineering or the energy sector – Gebhardt Group profiles and stamped parts fulfil the highest demands in terms of resilience, precision and functionality.

Thanks to state-of-the-art manufacturing technologies, such as **cold rolling and laser cutting**, we produce profiles and components optimised down to the finest detail. Our range spans from standardised solutions to highly specialised, custom-made products tailored precisely to our customers' requirements.

Gebhardt Group

Efficiency in profiles



Business sectors

Construction

We provide customised profile solutions for the window and door industry to reinforce PVCu systems. This includes reinforcement profiles, door frame profiles, and thermally broken sections. Additionally, we support our customers by optimising their processes. As a reliable partner, we accompany them through all project phases and make their work easier.



Air Duct Solutions

We help HVAC experts tackle the increasing complexity of their projects. With modular, readily available systems, we respond flexibly to individual requirements and ensure a noticeable reduction in time and costs – through integrated solutions provided directly on-site and from a single source. Our products prove themselves daily in clean rooms, data centres, and the public building sector.

Industry

With our customised steel profiles and innovative solutions, we help our customers reduce internal efforts, unlock efficiency potentials, and achieve tangible cost savings. We develop and manufacture profiles, as well as stamping and bending parts, all the way to serial production, used in data centres, container construction, and the construction industry.



Energy

We lay the foundations for sustainable energy systems and support our customers as a reliable partner in the planning, construction, and implementation of photovoltaic projects. This enables projects to be completed more quickly and cost-effectively.

Gebhardt-Stahl GmbH
Runtestrasse 33
D-59457 Werl
Tel. +49 2922 9733-0
sales-vp@gebhardt-stahl.de

Networks and partners

