sikla

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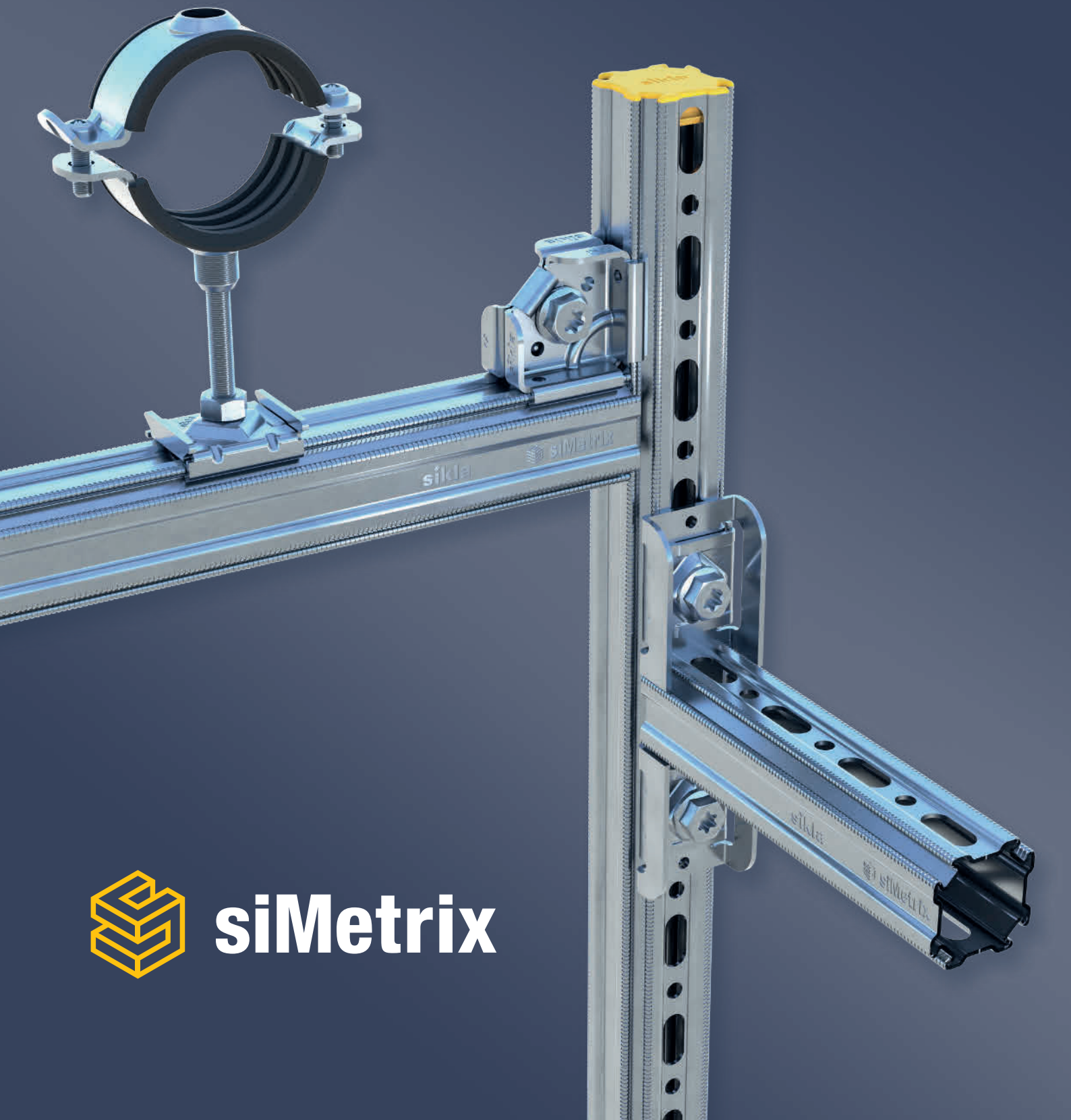

siMetrix

Sikla's prefabrication service: 25 years of innovation and efficiency

25 years ago, Managing Director Dieter Klauß redefined the market with the industrial production of custom modular frames that can be designed, assembled and delivered to site. Since then, Sikla has been dedicated to enhancing our prefabrication service to align with the market demands. Today, prefabrication significantly reduces planning and assembly time especially when skilled labours are in short supply but also gives our customers a competitive advantage.

30 years of Sikla Hungaria

Founded in Budapest June 1994, Sikla Hungaria was the first Sikla subsidiary to be established in Eastern Europe. Over the past 30 years we have provided Sikla products to several projects including the Metroline 4, the MOL building, the Puskás stadium and the SK Solution battery factory. The anniversary celebration was a fun family gathering where everyone enjoyed themselves. Most of our team has worked at Sikla Hungaria for many decades and our 11-person team are still ensure that all customers can still rely on Sikla.

30 years of Sikla Bohemia

Sikla Bohemia, based in Hovorčovice near Prague, was foundedin September 1994. Sikla Bohemia currently employees 15 people who work hard to offer Czech customers reliable support solutions and client-focused services. The 30th anniversary celebration was held in the centre of Prague, with the Klauß family and colleagues from other Eastern European Sikla subsidiaries.

Dear Readers,

In the mist of global transformation, it is essential to change our perspective. Old habits give way to new challenges and opportunities. Only through innovative approaches and creative solutions can we successfully navigate these changes. In this year's interview we take a look at the transformation in the construction industry and how we can actively help to shape it with Prof. Tom Philipps and Thomas Bernard.

As pioneers in support systems, Sikla has already developed and introduced several innovations that have transformed the market. Our new innovative assembly system siMetrix, is about to change the industry. siMetrix combines the best of two worlds: it is modular, 3D plannable and easy to install like siFramo, while being as quick and straightforward to assemble as Pressix CC.

Sikla are proud of the European Technical Assessment (ETA), recently awarded to our modular support system, siFramo. This certification provides you with the confidence of official verified load values ensuring the highest standard of safety and efficiency.

Be inspired by our exciting developments and discover how together, we can shape the future of modular support systems together

I hope you enjoy the read!

With kind regards,
Manuela Maurer
Corporate Culture & Communications

CORPORATE INFORMATION sikla

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The changing construction industry

We develop what will be needed in the future. Sikla's advanced intelligent and reliable solutions simplify the implementation of your projects. In this interview, Professor Tom Phillips and Sikla Managing Director Thomas Bernard talk about the effective collaboration between industry and universities is crucial in developing innovative technologies and methods.

Manuela Maurer in conversation with Prof. Tom Philipps and Thomas Bernard

How quickly is our everyday life changing and what impact is this having on the construction industry?

Tom Philipps: I like to refer to Moore's Law from 1965 (Gordon Moore, *1929, San Francisco, USA), which states that the number of transistors in an integrated circuit doubles every two years. This exponential growth in computing power is a key driver of technological progress in our era. The challenge is to keep up with these advancements and use available resources efficiently. The rapid technological development and sustainability regulations present a wide range of new opportunities and perspectives

Thomas: The economy and society are experiencing a profound digital transformation. To shape the future, we need to work together, especially as the framework conditions are rapidly evolving. New buildings are becoming increasingly complex and therefore require a high level of expertise and close cooperation among all stakeholders. Digitalisation can significantly contribute here and promote innovation. It is no surprise that the Internet of Things (IoT) is quickly integrating into the construction industry by providing access to real-time information at every stage of a project through a network of internet-connected devices that centralise data.

How do we as individuals, a society and as a company deal with it?

Tom Philipps: Everyone can contribute to creating a more sustainable world. By using our resources responsibly, each person can contribute. When everyone works together, these efforts have a significant impact on protecting our planet as an ecological, economic and social system. Promoting this awareness is a key aspect of my training and my research projects.

Thomas: Sikla works closely with universities and customers internationally in the research and development of new solutions. We are committed to using digitalisation as a tool and a method to create added value for our customers. Our vision is to make the digital construction site a reality. As pioneers in support systems, we were and are an essential part of these changes.

How crucial is the collaboration between the industry and universities, and what role does innovation play in the construction industry?

Tom Philipps: Collaboration between the industry and universities is essential when it comes to developing new technologies and solutions. For me, the two main aspects – synergies and economic benefits – take centre stage. Universities contribute in-depth theoretical knowledge and applied research methods. Industry has practical experience and knowledge about the markets requirements. Collaboration accelerates innovation processes and strengthens competitiveness. Cooperation can take many forms: such as as joint research and development projects, knowledge transfer and training sessions, or innovation networks and the shared use of resources.

Thomas: We value these collaborations and use the broad spectrum of expertise and the exchange of knowledge for our innovation processes. An example of the importance of innovation is our new siMetrix click system. To compensate for the shortage of skilled workers in the construction industry, we focus on systems that are easy to assemble and can be planned digitally. With siMetrix, both the assembly and the complexity of 3D planning is significantly reduced. We focus on developing digitally usable components that have the required product data, approvals and environmental certificates.

What role does sustainability play in the construction industry and what steps are Sikla taking to promote sustainable practices?

Tom Philipps: Sustainability in the construction industry is essential for addressing environmental, economic and social challenges. Companies like Sikla are pivotal in promoting sustainable practices and developing innovative and environmentally friendly products. These include, for example, modular construction methods that reduce material consumption and use recyclable materials. These measures not only contribute to reducing our environmental impact but strengthens Sikla's reputation as a responsible and forward-thinking company.

Thomas: In times of sustainability, efficiency and increasing legal requirements, holistic planning and construction are becoming crucial. All aspects of a project from planning and manufacturing to assembly and for industrial projects, even though to the commissioning and the lifecycle phase, must be considered. Our ambitious quality and sustainability goals are reflected in our activities and customer projects. We believe that environmental certifications such as Ecovadis, the ISO 14001 environmental management system and approvals, such as the ETA for siFramo, will be essential for future project execution. Sikla is well-positioned to support our customers in meeting these requirements.

Managing Director Thomas Bernard and Prof. Tom Philipps

***Tom Philipps** is Professor of Industrial Design, focusing on concepts and technical design, at the University of Darmstadt.*
He heads the research group for innovative products and systems (FIPS) of GFTN e.V.

New approval: ETA for siFramo

siFramo is the only modular steel system which is independently assessed for ETA (European Technical Assessment) compliance. The ETA means that our customers benefit from certified load values and significant time savings.
Safety and reliability are core values of our company.
Sikla recognised the challenge posed by the EN 1090 standard back in 2015 and achieved the certificate of conformity for our in-house production control. Since then, the siFramo system has carried the CE mark. Now, with the ETA assessment, we are setting a new benchmark in the industry.

Interview with Dominik Zanker (M.Eng), R&D expert, Sikla SHQ

What are the advantages of using steel components that bear the CE mark?

The CE mark indicated that the product has been manufactured in compliance with the relevant European standards. This is regularly monitored by TÜV Rheinland and gives our customers the certainty that our siFramo system is a classified construction product with a verifiable structural analysis in accordance with the Eurocodes.

Why is the current verification procedure no longer sufficient?

The requirements for verifications are becoming increasingly more demanding. Due to the offset holes in the siFramo profiles, it was not possible to perform using the Eurocodes. Missing values had to be determined through practical tests, which proved to be practical for most users and projects. Over time, we received more enquiries about the origin and reliability of these values. While we addressed user questions by providing access to test procedures and structural analyses, this proved to be insufficient for Engineers responsible for verifying those analyses. These require official certifications or similar verifications.

How did a future-proof solution develop from this status quo?

The first projects were signed off and approved on a case-by-case basis. It soon became clear that a new approach was necessary and in collaboration with steel construction experts, we identified the need for a comprehensive approval system that includes product values and verification procedures. The CE mark, a recognised seal of quality, is a standard for trade within the European single market. Since additional national regulations, such as a “National Technical Approval” or an add-on to the CE mark, would not be compatible, the ETA, in accordance with the EU Construction Products Regulation, was the ideal solution. This covers all the requirements and provided assurance within the European Economic Area. The ETA is a widely recognised certificate that confirms a construction product’s suitability for use under the Construction Products Regulation across EU Member States.

What pioneering achievement has Sikla made with the ETA assessment for siFramo?

With the ETA for a heavy-duty system, Sikla are establishing a new industry standard. The CE mark on siFramo components is now based on the ETA. Product values and structural analyses, from programs like RSTAB, can be taken from the assessment and safely applied, as officially confirmed by the renowned construction institute and Technical Assessment Body (TAB) LUXIB.

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www.eota.eu

External testing of existing designs and structures: load values were only valid for predefined typicals.

01

In-house testing of siFramo components: values for individual components were calculated.

02

External audits and expert reviews: product values were assessed and validated externally.

03

General certification for siFramo: values of beam profiles have been externally verified.

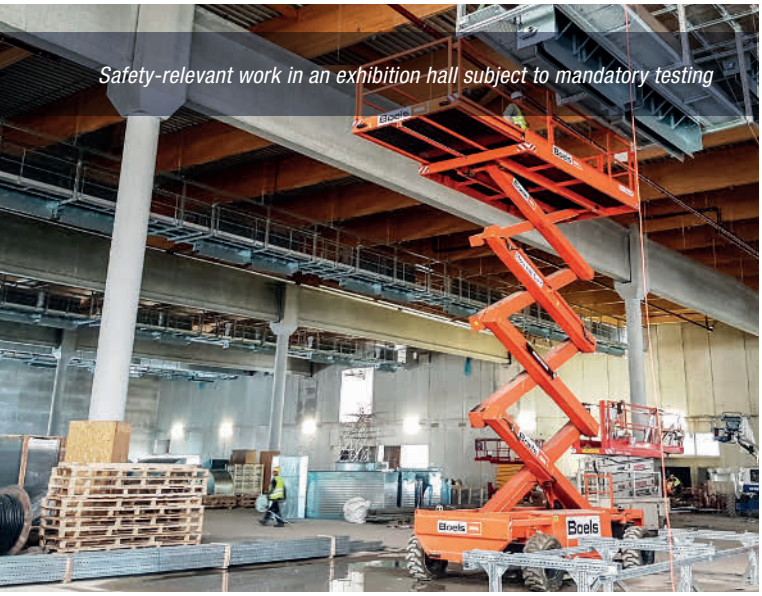
04

ETA for siFramo and FLS F self forming screw: values are officially confirmed with certification.

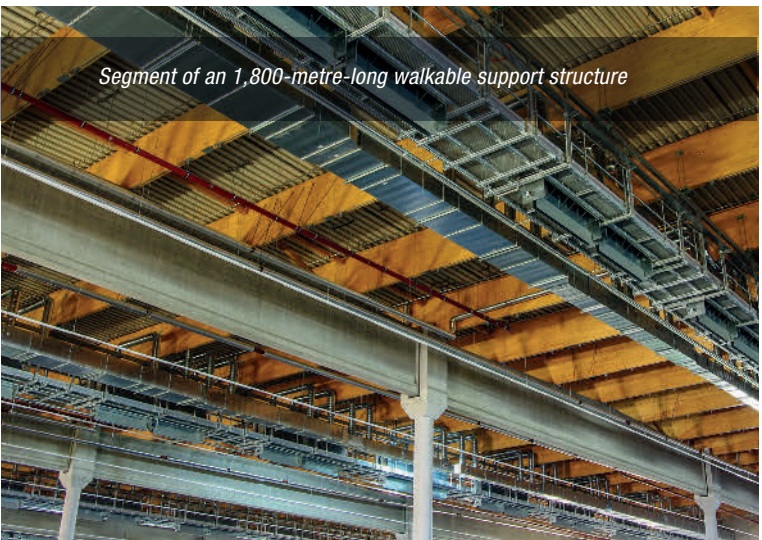
05

How do customers benefit from the ETA?

The use of an ETA-assessed heavy-duty system ensures compliance with European requirements set out in the Construction Products Regulation. Verification is based on the Eurocodes. Discussions with Structural Engineers regarding product values are now based on the assessment. All previously unanswered questions can now be addressed with reference to the ETA and the declarations of performance. Operators of large plants and the departments responsible for technical plant safety also benefit from the increased level of certainty.



Safety-relevant work in an exhibition hall subject to mandatory testing



Segment of an 1,800-metre-long walkable support structure

Optimised project execution

- **Public construction projects**
  Reduced documentation and verification requirements for public sector projects
- **Construction projects overseen by public authorities**
  More efficient delivery of projects such as airports, hospitals, or exhibition centres, reducing the need for discussions with Engineers for checking the structural analysis.
- **Support systems in the public domain**
  Projects that do not exceed the requirements of Execution Class 2 (EXC 2) can be implemented without additional expense.
- **Industrial projects**
  The ETA supports tendering for industrial projects based on designs requiring verification and testing. Project delays due to structural analysis approvals in individual cases are now a thing of the past.

Our customers gain a competitive advantage because siFramo is the only heavy-duty system with an ETA. The certified load values create new opportunities for structural analysis checks.

ETA for siFramo

ETA FLS F

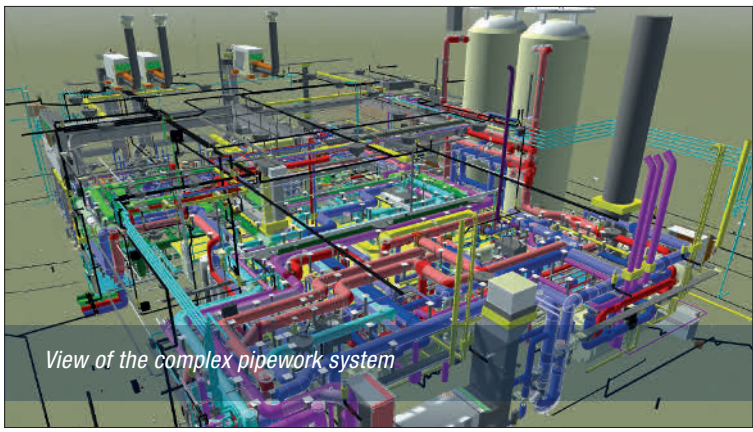
siFramo Impressing our clients

In the WWZ Circulago project in Baar, Switzerland, we successfully implement the entire planning and modelling phase, leveraging the benefits of siFramo

For the Circulago project, WWZ is designing a unique energy network that will supply the Zug and Baar-Süd regions with renewable heating and cooling systems. Once this major project is completed, the region will reduce annual CO_2 emissions by 25,000 tonnes. The energy to power Circulago will come from Lake Zug, where the water from the lake is transported via a closed circuit via an underground pipe. There, a heat exchanger transfers the energy to a second circuit, while at the same time, the water circulates back into Lake Zug.

Sikla Switzerland has previously built several large plants with Hälg Ebikon and was the ideal partner for planning and supplying support systems.

The 12-metre-high and of 40 x 30 metres building, features a dense and complex pipework system throughout. Due to its complexity, along with high operating forces identified in a stress analysis and additional seismic influences, most supports needed to be individually modelled. This challenge was effectively addressed by siFramo, thanks to its flexibility.



View of the complex pipework system

Sikla exchanged the 3D planning and 2D drawings with the customer using the cloud-based collaboration software platform, Revizto. A challenge faced daily was the alterations to the pipework design and thanks to siFramo's planning capability, we were able to implement these changes efficiently in Revit. A Sikla Design Engineer was part of the technical coordination team, providing regular on-site support during execution.

Cooling network implemented with siFramo

Daniel Ganter
CAD/BIM Technician
Hälg & Co. AG

"Sikla actively supported us in planning support systems for pipes up to 500 mm in diameter. In addition to the seismic regulations, we had to comply with the structural analysis for the pipework conditions and Sikla developed a bespoke and innovative solution to address the challenges. Using a digital platform, such as Revizto, ensured our collaboration and communications were efficient."

Stefano Guida
Project Manager/
Deputy Manager
Heating/Refrigeration
Hälg & Co. AG

"siFramo products are reliable and very versatile when it comes to implementing complex designs. Installation is fast and safe."

Creativity meets siFramo

In early of 2024, Sikla Slovenia relocated to a new office and warehouse in Črenšovci. Managing Director Ignac Jantelj designed bespoke furniture that incorporated key features of siFramo and crafted by a local carpentry business. The Sikla Slovenia team are delighted with the results and wanted to share them with you.

Karmen Reisenhofer and Ignac Jantelj

siMetrix

ONE SCREW – TWO PARTS – THREE DIMENSIONS

The fastening concept of the future: fast, flexible and modular

As pioneers in support systems, Sikla has been developing market-defining solutions for over five decades. Our vision is to make the digital construction site a reality and to develop siklaproof solutions for it.

Three-dimensional connections with only one screw and two components: PRO 46 profile and CN 46 connectors

siMetrix represents another market-defining innovation, made by Sikla. It is an easy to plan, three dimensional click system that combines the advantages of siFramo and Pressix CC.

At the centre of the system is a torsionally rigid, closed channel measuring at 46 x 46 mm. The streamlined profile allows for optimal planning and quick and easy installation. All components are finished with a high-quality HCP coating and are compatible with our siFramo and Pressix CC range through connection solutions.

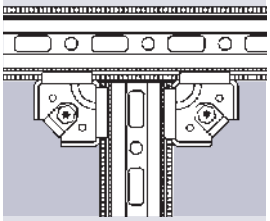
The innovative 1-2-3 principle One screw – two parts – three dimensions

Complex three-dimensional structures can be constructed with just two parts: the Angle Connector CN 46 (90°) and the Profile PRO 46. Thanks to the innovative click system, installation is quick and easy. Simply press the connecting element onto the profile and secure by tightening the screw.
In combination with the Revit plugin, this greatly simplifies planning in BIM projects.

1
Screw

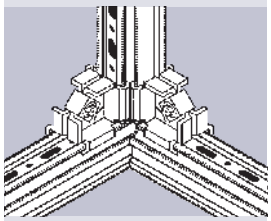
Each design requires only one type of screw.

2
Parts



Two central parts open up a world of possibilities.

3
Dimensions



Complex designs, with simple and modular implementation.

Innovative concept, easy handling and versatile in use

Ideal for:

- **Ceiling constructions and suspended grids**
  Flexible and three-dimensional planning and installation
- **Rooftop units**
  Modular design and easy adaptation
- **Seismic protection**
  Protection through torsionally rigid profile structure and flexible braces
- **Cable routing**
  Compact design allows for installations in small spaces
- **Prefabricated modules**
  Flexible use and easy installation

Benefits:

Planning
- Minimal components
- Three-dimensional connections
- Seamless connectivity

Procurement
- Available of the shelf
- Concise product range
- Minimal storage required

Installation
- Minimal components
- Quick and easy assembly
- Compatible with siFramo and Pressix CC

siMetrix application with siFramo

Easy to plan using common planning tools

We work with you to develop a BIM-optimised fastening solution.
We offer the following plugins to support your planning:

SiCAD 4 E3D SiCAD 4 REVIT SiCAD 4 Plant3D SuCri SiCAD 4 S3D SiCAD 4 AutoCAD

siMetrix

You can find further product information in our siMetrix e-catalogue.


PRO 46


PRO 46-P


AK 46-P


AK CC 46-P


CN 46


PK 46


PBH 46


PBS 46


GS H3G-PL


GS H3G2-PL


MPK 46


RUB 46


WBD 46


MPA F


SA PRO 46


MPH 46


SB 46


AP 46


SHB SQF


ADK 46


SAL 46


GA 41-46

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User Guidelines

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Installation Guidelines