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International Reference Book

For Pipe Fixing Systems

Inspired by smart solutions from the start

Walraven was established in 1942. Our founder, the great-grandfather of our current CEO, was an inventor with a love for simple and smart solutions. And now, more than 80 years later, we are a globally active company in the installation industry, still driven to develop simple, yet smart product systems. With our wide product range and expert advice, we can provide complete solutions for any project, no matter how large or complex.

Walraven. The value of smart

Tried. Tested. Recommended.

Walraven has been present in the construction market for over 75 years and delivered thousands of successful projects all over the world.

When we work on projects, we don't only supply products. We see ourselves as a knowledgeable and reliable partner to our clients. Next to manufacturing the products, we provide our customers with support at various stages as well as supporting them during the preparation phase by developing drawings and calculations. We often provide onsite training support in addition to regular checks on the project site to ensure everything is on track an in order.

Furthermore, more and more of our clients are leveraging our prefabrication services thereby the assembly of the system takes place at our facility, and on the site the work can fully be focused on the installation of the system.

Now it's time for our references to do the talking

Our references

Having experience, competence and a reliable portfolio are important but having relevant references that serve as proof-points of them is also, if not even more important. The purpose of this reference book is to provide you with some inspiration about the type of applications and segments we have been active in and how we've been resolving different customer challenges.

We hope you will find the document inspiring and informative, and it will give you the reassurance you need to get in touch and start discussing your next project with us.

Contents

From office buildings to residential areas and from stadiums to hotels, Walraven have a lot of experience in developing, producing, and delivering of technical solutions. Our know-how and support service are the main reasons for choosing Walraven as a project partner.

Our service goes a long way. Whether it is reliable and accurate advice, solution for a specific technical challenge or just- in-time delivery on site.


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Commercial

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Commercial |

Leading Dutch Chemical Company

The Netherlands I Geleen

Background

One of the leading chemical firms in the Netherlands invested in constructing a new research centre in the city of Geleen, in the Netherlands. The facility includes multiple laboratories and provides office workspaces for over 400 employees. As proof of its highly sustainable nature, the building was awarded with 'Very Good ' label from BREEAM.

Customer requirements

The modern facility does not only provide a home for challenging projects in its lab but also when it comes to its piping system. Even though the project entailed the installation of regular cooling and ventilation pipes, process tubes and air ducts, the presence of asymmetrical loads created a big challenge for the installer. Moreover, there were strict regulations and safety guidelines to be followed during the installation on site.

Project highlights

- Cooling pipes
- Process tubes
- Ventilation pipes and air ducts
- Installer: CroonWolter&Dros

BREEAM®

Solution

Walraven engineers supported with the load calculations and creation of technical drawings. Small pilots and tests were arranged for the installer to provide reassurance about the quality and suitability of the proposed solution. The technical support team from Walraven was also present on the site regularly to ensure that the overall project and the installation was done in a fast, yet correct manner.

Education

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Education

VIB (Flemish Institute for Biotechnology)

Belgium I Ghent

Background

VIB (Vlaams Instituut voor Biotechnologie) is a Flemish life sciences research institute based in the city of Ghent, Belgium. In 2018 the institute initiated the build of a new bio-incubator building to support the expansion and increase the research potential of the Tech Lane Ghent science park where it is also located.

Requirements

Maximising the efficiency of the new building, with particular emphasis on the HVAC system was one of the greatest priorities. The key challenge was to find the right solution that helps avoid the common pitfalls of heating and ventilation. In the case of heating, these pitfalls are energy loss and noise pollution while in the case of ventilation, the most common risks are condensation and corrosion.

Project highlights

- Heating pipes
- Ventilation pipes and air ducts

- BISOFIX® E 19
  Prevents corrosion
  Extends lifespan
- BISOFIX® 88
  Two-screw clamp integrated in closed cell rigid PUR foam

Solution

When selecting the right insulation for heating, the main requirement was to prevent the forming of thermal bridges. For this reason, the BISOFIX® 88 and the BISOFIX® E 19 insulating pipe supports were applied. At the locations where the ventilation ducts were in direct contact with the Walraven BIS RapidStrut rails, rubber strips were applied to insulate the duct from the rail and thus prevent thermal bridging. To mount the spiral ducts the BIS Aero clamps were used, a sendzimir galvanized clamp with coextruded TPE lining.

Government

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Government

Kaserne

France I Varces

Background

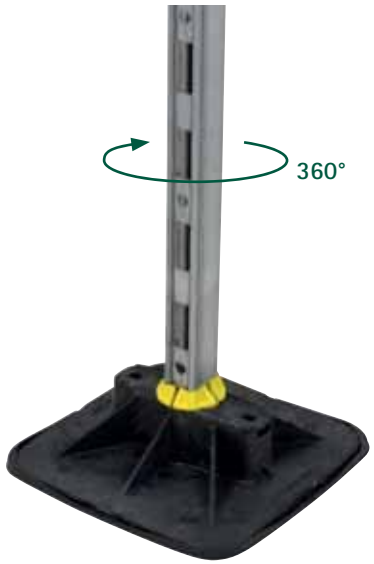
The town of Varces, at the crossroads of the Chartreuse, Vercors and Belledonne mountain ranges, offers an excellent military training and touristic location. Besides being known for its ski resorts, this is also where the well-known Kaserne military facility is located.

Requirements

Recently, the facility was extended with three new buildings and Kaserne needed support with preparing the ventilation systems on the roof. The main challenge was to provide a solution that does not damage the waterproof coating of the construction and the roof itself.

Project highlights

- Ventilation pipes and air ducts
- Rooftop supports for appliances, ducts, pipes and cable gutter



BIS Yeti®
A flexible and reliable foundation for light Strut based installations on roofs. It comes with a non-slip, anti-vibration mat to prevent damage to the roof membrane.

Solution

Walraven was the selected partner to assist with the project. Taking all the requirements into account, the Walraven Yeti feet, including insulation mat was selected. Next to the rooftop infrastructure, Walraven prepared complete sets for supporting the ventilation pipes. Due to the high-security measures, entrance and attendance at the job site were limited, and the installation had to be completed within a short period.

Healthcare

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Elderly Care Home

United Kingdom I London

Background

Our installer partner, Heatcare provides luxury care homes for the elderly in south England, and have worked with Walraven for many years. They are one of the UK's most highly-respected and accredited contractors working in the care industry, building a reputation for high-quality design, delivery and engineering expertise. Heatcare are committed to providing technical excellence, quality workmanship and highly reliable service.

Requirements

Heatcare asked us to work with them to fi nd a way to speed up the installation process for the mechanical services throughout their care home projects. Given the number of projects they work on, the cumulative benefi ts are potentially substantial.

Project highlights

- Cooling pipes
- Heating pipes

"RapidRail is our preferred bracketry system for installation projects. It is a great quality product that is fast and easy to install. We have saved over 150hrs installation time using this product range. We have also used Walraven's design, take-off and prefab services which helped the project run very smoothly. We would highly recommend Walraven products and services."

Gavin Hayes – Project Manager, Heatcare

Solution

With the option of prefabrication in our factory, we can deliver pre-assembled units for immediate installation. Prior to the pre-assembly, we carried out a full design take-off, including calculations for the entire building, taking into account factors such as the expansion needed for the services when differences in temperature occur. For the installation, we recommended our RapidRail system as it offered a fast and fl exible implementation. The system incorporated our green-lined clips which are perfectly suited to plastic pipe systems where expansion is expected. The installation of the entire ground took about 1.5 days. Normally this work can take up 2 weeks.

Entertainment

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Hospitality and leisure

Olympic Stadium

Ukraine | Kiev

Background

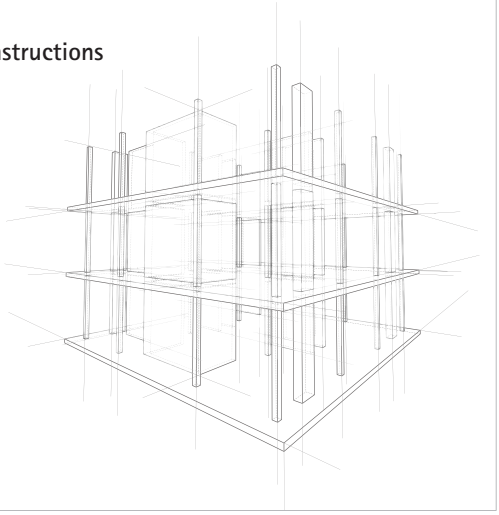
Built in 1923, the Olympic National Sports Complex is a multi-use sport and recreational facility in Kiev, Ukraine. Due to its economic and social importance, keeping it fresh, modern-looking and applying the latest and most efficient technology are crucial for the city.

Requirements

The latest renovation work on the sports complex began in August 2008 as part of the preparation for hosting the EURO 2012 final. Walraven supported the renovation of both the interior and exterior areas. The main challenge in terms of the exterior space was that there were precise requirements from UEFA for fixing banners on the façade. There had to be a 20 to 30-meter distance between each.

Project highlights

- Frame constructions



Solution

For the exterior, Walraven supported with a solid fame construction. In terms of the interior, Walraven assisted with the upgrade of the HVAC system of the stadium. Strut rails were used as suspension support for new water and gas pipes at the facility.

Industrial

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Industrial

Volkswagen factory

Poland I Września

Background

Operational since 2016, the Volkswagen factory in Września, near the city of Poznań in Poland is specialized in producing automobiles and components. With an area of over 2 million m², the plant has a production capacity of 100,000 units annually.

Customer requirements

Not only in terms of innovation and capacity but with regards to environmental awareness, the plant is an excellent example of a typical Volkswagen facility. As proof of that, Września plant received a gold certificate from the German Association of Sustainable Building. To further support the efficient operations of the building, Walraven was requested to assist with the preparation of pipe fixing for cold water installation.

Project highlights

- Cooling pipes
- Ventilation pipes and air ducts
- Rainwater discharge pipes

Solution

The initial scope of the project was the preparation and installation of cold water pipe fixing. Due to the lack of secondary steel structure, we also implemented a supporting rail system to enable the safe mounting of plastic pipes. Concrete beams were applied for fixation.

Industrial

Toms Group factory

Poland I Nowa Sól

Background

Danish chocolate manufacturer, Toms Group recently invested in a new chocolate production facility in Nowa Sól, Poland. In its first year of operation, the factory created 130 new job opportunities for the locals, and with a positive outlook to the future, this number is planned to be increased significantly in the future.

Requirements

Food production facilities typically need to comply with various regulations and follow strict guidelines in terms of material usage at the facility. The new building in Nowa Sól was no exception. One of the most critical points of attention was that the materials used had to have a very high corrosion resistance so they can maintain their serviceability despite the corrosive environment.

Project highlights

- Cooling pipes
- Heating pipes
- Ventilation pipes

Solution

The Walraven engineers worked in close collaboration with the main and sub-contractors throughout the project. The result was a modern, effective and 100% compliant piping system with particular focus on heating pipes, ventilation pipes and ventilation ducts. Due to the highly corrosive environment, Walraven recommended the installation of a BIS UltraProtect® 1000 fastening system. All products within the system are coated with a special BIS UtraProtect® 1000 coating, which withstands up to 1000 hours of salt spray testing (according to ISO 9227) and offers excellent protection against corrosion.

Infrastructure

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Infrastructure

Bridge River Avon

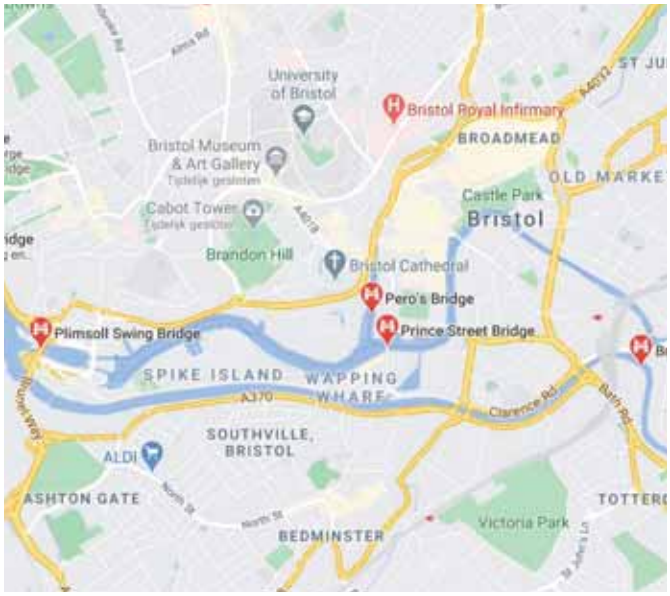
United Kingdom I Bristol

Background

Temple Quay is an area of mixed-use development in central Bristol, England. The development includes residential, commercial and infrastructural improvements. As part of the program, a new bridge was constructed over the river Avon. Walraven was asked to design the support system for two new district heating pipelines running under the newly constructed Change bridge.

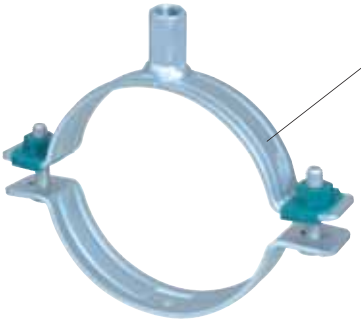
Requirements

First and foremost, due to the corrosive environment special consideration had to be given to the surface protection of the components specified. Moreover, high levels of pipe movement were expected from the thermal expansion of the pipework and movement of the bridge itself. And finally, the pipework was 150NB pre-insulated, giving added complications when creating fixing points where surface pressure would not exceed the pipe manufacturers guidelines.



Project highlights

- Heating pipes



- **HD500 clamps**
  two-part clamp with two locking bolts for steel pipes and heavy design.

Solution

Our technical advisers carried out thermal movement calculations and recommended heavy duty pipe supports to deal with the high loads and the pre-insulated pipe. Expansion devices were installed to allow for the linear thermal movement. In some locations, anti-vibration hangers were also used to help eliminate the high-frequency vibrations expected from the bridge. All products used included our special BIS UltraProtect® coating ensuring the best corrosion protection.

Residential

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IJburg Urban Development

The Netherlands I Amsterdam

Background

IJburg is a large-scale urban development project on the outskirts of Amsterdam, the Netherlands. Supporting the realisation of a significant urban extension with a size of 220 ha, which is developed on artificial islands, Walraven received the request to construct a pipe support system for the project.

Customer requirements

To enable the transportation of hot and cold water, a large diameter PE pipe-work had to be constructed. For economical and saving purposes, ground-coupled heat exchanger systems for residential use were selected. The contractor was using BIM methodology to manage the project, and they asked Walraven to design a suitable pipe support system for this unique environment using Revit.

Project highlights

- Cooling pipes
- Heating pipes
- Contractor: Kersten Retail

bimobject®

Solution

Using Revit software, Walraven engineers produced consistent and complete model-based designs and documentation for the project. By using the integrated BIM objects files which contain the full specifications for Walraven products, we developed an effective and high-quality pipe support solutions for the diverse pipe installations.

Followed by the preparation of drawings and calculations, Walraven also prefabricated the system, which altogether ensured a fast, safe and precise assembly as well as time and cost savings on site.

Residential

Chappelle D'Enhaive

Belgium I Jambes

Background

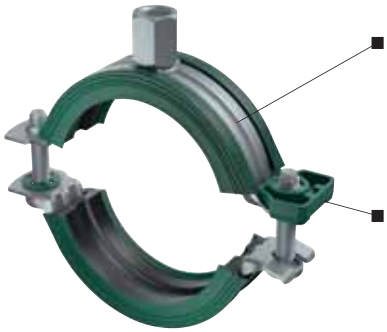
Chappelle D'Enhaive, a new residential complex in Jambes, Belgium, was designed and built with a sustainable mindset right from the start. The complex, comprising of 6 houses and 95 apartments distributed over five buildings, is located near the river of Meuse and has direct access to the centre of the city.

Requirements

The key challenge during the project was to find a solution for fixing the polypropylene pipes that facilitate the hot and cold water supply. Due to the often-changing temperature inside the pipes, they expand and shrink regularly. Therefore, one of the key requirements was to prevent the moving pipes from putting additional force on the fixing system. Next to this, keeping the noise level to the minimum was also an important criterion.

Project highlights

- Drinking water pipes



- **Bifix® G2**
  Two-screw clamp for uninsulated pipes
- Quick closing mechanism

Solution

Walraven technical engineers advised applying Bifix® G2 5000 clamps, designed explicitly for plastic pipes. Thanks to the rubber lining and removable spacer washers, these clamps are suitable for both sliding and anchoring. For mounting the steel pipes, Bifix® G2 clamps with black rubber lining were selected. To distribute the changing length, which is the result of the frequent temperature difference, our engineers drew a solution with two 90 degree bends and split the number of pipes into 2 separate groups so that they would fit through the openings in the wall. Next to high quality and compliant product systems, Walraven supported with technical advice, calculation and design preparation throughout the project.

Residential

Nieuw Babylon

The Netherlands I Den Haag

Background

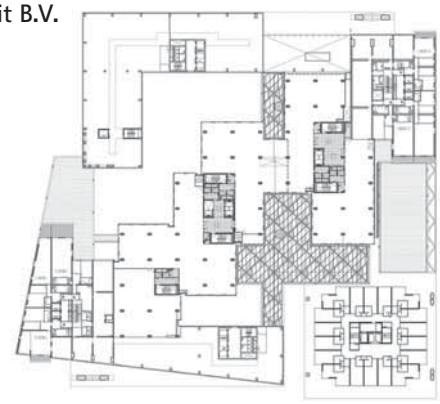
With its two residential towers (102 meter and 142 meter high respectively) and one office building sitting in the middle, the New Babylon is an outstanding construction on the skyline of den Haag, the Netherlands.

Customer requirements

The long term objective of the complex is to become a world-class business destination and harmonious multifunctional facility. Given its size, it is also one of the largest construction projects in the region. The installation project was primarily focusing on finding the correct riser solutions to facilitate the right water pressure, both cold and warm on the lowest as well as the highest floors.

Project highlights

- Drinking water pipes
- Installer: Kruit B.V.



Solution

As a result of the pressure differences, compensators had to be implemented on the copper pipes to compensate for the possible pipe expansions. After the first unsuccessful trials (the compensators broke down as a result of incorrect installation), Walraven was contacted to provide technical support and advice on the products to be used. The Walraven engineering team supported with making new calculations and providing detailed installation guidance. These were great contributors to the success of the project.

Residential

König-Albert Residenz Leipzig

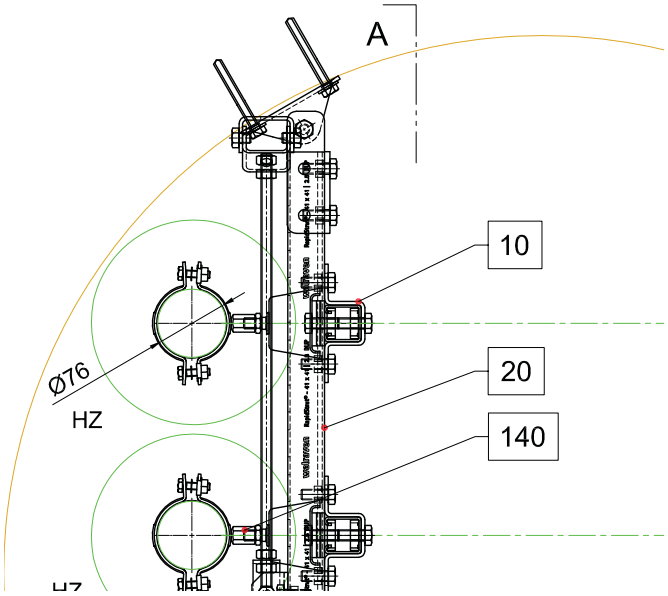
Germany I Leipzig

Background

The King Albert Residence, located in the city of Leipzig, Germany, is an exclusive urban area of approximately 25,000 square meters. Next to its unique architectural and design concept, which makes this area outstanding, is its advanced sustainability vision. Through providing sustainable heat and power supply and making great use of solar energy, the site operates almost self-sufficiently.

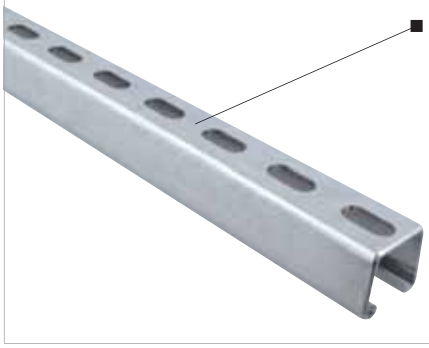
Requirements

Given the independence of the area from an energy and heat supply perspective, there had to be a lot of connections created among the power supplies and the houses. This resulted in a tunnel system that connected these supply to the different buildings. Critical attention points during the installation were the need for proper noise insulation and support with thermal pipe expansion. Moreover, the tunnels needed to remain accessible for maintenance work.



Project highlights

- Water pipes
- Gas pipes
- Frame construction



- **BIS RapidStrut®** fixing system offers an extensive choice for rail profiles and cantilever arms.

Solution

A solid frame construction was designed including the corrosion-proof BIS RapidStrut® rail support system. To prevent large dynamic forces as the result of the thermal pipe expansion and contraction, noise-insulating fixing points and sliding devices were applied to accommodate the length differences. The support from the Walraven technical engineering contributed to a fast project delivery as well as a satisfied installer and end-customer.

Walraven. Your partner for innovative solutions!

The combination of our expertise, innovative product systems and customised support service ensure the success of your project.

Based on your individual requirements, our Technical Sales Support advisors deliver you a proposal, well-grounded with detailed calculations, including digital models and parts lists.

Technical Support Services

Experience in solving technical challenges

Together we will find the best solution for your installation projects. From design, engineering support to onsite consultation.

At Walraven, we want to help you find the most effective solutions for your construction challenges. Our team of Technical Sales Support Advisors provide comprehensive services that take the stress out of mechanical, electrical and passive fire protection installations. For the progress of your project, it's important to engage us as early as possible so we can help you solve problems quickly, deliver projects faster, reduce labour costs and more. Interested? Find out more about our project services here:

walraven.com/int/project-support

We want to help you fi nd the most eff ective solutions for your construction challenges

walraven

Jak możemy Ci pomóc

Dowiedz się więcej o rozwiązaniach opisanych w katalogu. Skontaktuj się z nami w celu uzyskania optymalnych rozwiązań dla Twojego projektu.

Międzynarodowe projekty Walraven (PL) - pdf - Full content subject to modifications

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