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Give Me an Example

I still remember how one of my early school teachers urged me to give examples of what I had learnt in his classes, hoping to enhance the knowledge acquired in our studies.

That is precisely what we are going to do with this book: show, by means of practical examples of finished projects, how our company has helped to improve sustainability and energy efficiency in all those buildings where our materials, systems and solutions have been installed.

Therefore, the pages you have in front of you are not a mere product catalogue, nor a compendium of building solutions, and far from a pompous book of architecture showcasing innovative and complex designs and buildings.

Each of the projects published in this book has been carefully chosen to show that, whatever the building type, URSA has a solution that can significantly improve the final result.

The difficult economic situation still present across Europe has taught us, not always the easy way, that energy efficiency and sustainability are not only “green fashions” that clean and “greenwash” any company’s corporate image.

Our commitment has always been firm and today we take pride in having the widest range of insulating materials which, through their use in construction, contribute to energy and money saving, lower dependence on fossil fuels, reduction of carbon emissions and greater comfort.

We are totally committed to the European Union’s requirements and we want to play an important role in achieving Nearly Zero Energy buildings for hospitals, health centres, sports centres, football stadiums, offices, retail and leisure centres and, of course, homes, by 2050.

Is this impossible? Of course not. At URSA we are already doing it, as the 33 examples in this book prove. As my dear old teacher used to say, they have helped to enhance our knowledge, they have given us experience and they have been chosen to show how, in theory and in practice, good insulation and materials make energy efficiency, respect for the environment, building quality and comfort, not a dream, but a reality.

Christian Michel
Managing Director URSA Insulation
1.

Residential Multi-Family Homes
Multi-Family Homes

Buildings that don’t prey on energy

The European Union is very clear. By the year 2020, all Member States must reduce their greenhouse gas emissions by 20%, obtain 20% of their energy from renewable sources and increase their energy efficiency by 20%.

Three objectives; unattainable if no action is taken on new housing and existing building stock within the European Union. It comes as no surprise when we consider that, in Europe, housing is responsible for 40% of energy consumed and for 36% of the emissions that pollute our environment. Brussels wants the existing housing stock in Europe to move towards Nearly Zero Energy by 2020. But, what is the formula to achieve this? Experts estimate that by reducing our heating and cooling demand by 80%, feasible by installing good insulation and by choosing the right envelopes for our buildings, we could bring down our home’s emissions by 34%.

Multi-family buildings must try to reduce the energy they require to maintain adequate comfort levels. To do so, it is essential that they comply with the requirements that will make them liveable and comfortable, as well as environmentally friendly, spaces. Their location and orientation, their design, good acoustics, fire protection measures and, above all, their insulation, are critical.

Insulation is, today, the most cost-effective measure to improve energy efficiency in multifamily housing. Around half of the energy we consume in our homes is used to maintain temperature at comfortable levels, both in winter and summer. Heating and air conditioning amount to the highest expense in our energy bill, when, by using adequate thermal insulating materials, we could stay in the comfort zone in a much more efficient way. URSA produces materials that offer a high level of thermal and acoustic insulation, especially devised for multi-family housing. They boast excellent credentials and are efficient and environmentally friendly during their whole life-cycle. The energy savings they achieve far exceed the energy used in their production, transport and installation, resulting in an optimum environmental balance regarding CO₂ emissions.

The figures leave no room for doubt in both new construction and refurbishment projects: during the entire life-cycle of insulated surfaces, estimated profits of 7 euro per euro invested can be obtained; and, as an added benefit, the cost per CO₂ ton saved would be the lowest of all the measures aimed at improving energy efficiency in construction.

At URSA we believe that the cleanest and most efficient energy is the energy which is never consumed, and so we offer solutions and systems for multi-family housing that contribute to lowering energy demand and that reduce polluting gas emissions.

Why choose URSA for multi-family buildings?

- Because our materials can provide much higher levels of thermal and acoustic insulation than those required by European laws and standards.
- Because installing our materials helps buildings to actively fight against climate change and greenhouse gas emissions.
- Because the families who live in these homes will save energy and, therefore, money.

Because our materials help build more comfortable homes, that are safer in the case of fire. Our mineral wool products have high reaction to fire, and help to stop flames from spreading between rooms and neighbouring homes.

Because our materials will contribute to reducing the European Union’s energy consumption levels and dependence on external sources of energy and fossil fuels.

Because these buildings are usually located in urban areas with higher acoustic insulating needs, requiring protection against noises from the street and neighbouring homes. Our specially designed insulating products absorb and muffle noise.

Because these materials are low-maintenance, which means their actual cost is very low compared to the comfort obtained during the building’s life-cycle.

URSA produces materials that offer a high level of thermal and acoustic insulation, especially devised for multi-family housing.
The main aim of the 2010 restoration of this historical building was to maintain the spirit with which it was constructed. Nearly a century earlier, in 1905, this multi-family building was erected in the German city of Leipzig, the same year that construction works for the new City Hall were started, on the foundations of the old castle of Pleißenburg.

This Saxon city, cradle of a great musical tradition, has managed to combine the growth of a modern city with the conservation of its historical buildings, located in the city centre, surrounded by winding lanes.

The whole building and, of course, its façade enjoy historic monument status. Consequently, the restoration could not alter the idiosyncrasy or construction elements of the building envelope.

Looking to overcome this challenge and provide the multi-family house with the comfort and energy efficiency pursued by its owners, the four storeys and attic were insulated using the URSA CLICK system.

This system has in fact been specially designed and tested for the internal insulation of exterior walls, in those cases where work from the outside is not viable. As well as other components, the URSA CLICK system is made with URSA PUREONE mineral wool, one of our company’s most efficient and sustainable materials.

URSA PUREONE is manufactured using a water-borne technology that only releases vapour, making it fully recyclable at the end its life-cycle. Its excellent thermal and acoustic insulating performance, along with the great energy savings it helps to achieve, made it the perfect choice for Nora Seibt, architect in charge of the restoration work.

In addition, this mineral wool was also used to insulate the building’s roof, where URSA PUREONE 35 RN Spannfilz was specified. This non-laminated mineral wool felt blanket is the ideal product to insulate gable roofs and timber frame structures.

The restoration of this historical building aimed at maintaining the spirit with which it was constructed in 1905.
Also in the city of Leipzig, in the district known as “Musikviertel”, this 19th century building was home to the acclaimed German publishing house Reclam, well-known for its affordable books with the coloured spines, which made up its world-famous “Universal Library”.

Built following the wishes of Anton Philip Reclam, the building became the headquarters of the first publisher to introduce book vending machines in Germany.

However, its history is full of ups and downs. On the 4th December 1943, 450 tonnes of books were destroyed during an allied bombing raid in the Second World War.

Reclam Mansion underwent many vicissitudes during the 20th century. It was confiscated in the war’s aftermath and nationalised by the communist regime of Eastern Germany until German reunification and, finally, abandoned in 2006.

Nowadays, this historic neighbourhood is full of impressive newly-constructed multifamily housing. It has become one of the most sought-after residential areas in Leipzig.

These buildings sit side-by-side with historic monuments and national heritage buildings.

URSA PUREONE 40 PN was selected for one of them. An insulating mineral wool with no coating, indicated for thermal and acoustic insulation of interior partition walls, wood panels and ceilings. This material, which comes in slabs, is recommended when pursuing maximum interior quality.
Construction for the Eliška Residence began in November 2011, six years after this ambitious project was envisaged by its owners. Eliška, (Elizabeth in English) is a 25 storey-high residential building with all the luxuries of a state-of-the-art apart-hotel.

Located in the centre of Prague, capital city of the Czech Republic, this modern building offers a variety of services to its residents, such as a reception desk, cafeteria, gym, medical services and much more (cleaning and repair services, beauty salons, etc).

Its excellent location, just 10 minutes away from the centre of Prague, is one of the factors that, together with the bicycle lane or wide green areas surrounding the plot, make this building sustainable, as well as the care taken by the design and construction team. Eliška obtained a band B Energy Performance Certificate, confirming its energy saving capacity and respect for the environment.

URSA has also contributed to improving the sustainability, efficiency and thermal and acoustic comfort of the building. The developers put their trust in URSA GLASSWOOL TWF, an insulating material delivered in rolls specially designed to provide thermal and acoustic insulation for lightweight partition walls, particularly metal structure and plasterboard systems. This material is non-combustible and has a high fire class: A1.

URSA has contributed to improving the sustainability, efficiency and thermal and acoustic comfort of this residential building.
2. Residential Single-Family Homes
Single-Family Homes

The cleanest energy is the energy that is never consumed

Detached, semi-detached, terraced... To choose a single-family home is to choose a completely different way of life: away from irritating noises, normally in a less urban environment and assuming sole responsibility for the house’s energy consumption.

However what at first glance might appear as an advantage, could soon turn into a problem if construction is not carried out correctly. Not having neighbours is an advantage when wanting to avoid noises, but, on the other hand, single-family home dwellers will not benefit from the warmth that results from sharing walls, ceilings and floors with other inhabited homes.

Therefore, it is crucial to plan, from the very beginning, the house’s design and main characteristics, selecting building materials correctly. Whenever possible, it is important to choose the right location and orientation. The location will influence the building’s energy balance, while orientation is essential to avoid heating and cooling energy waste.

Consequently, in cold climates, it is better if the house is facing South, making the most of solar light and heat, mainly in the winter months. The complete opposite situation occurs in warm and hot climates, where the most appropriate solution is to take advantage of the shade below trees and other buildings, to protect the home from unwanted solar radiation.

The house’s design will also have a great impact on its future thermal and acoustic behaviour. Experts recommend simple and compact designs that guarantee minimised energy losses. The façade, roof and windows make up the envelope. The smaller the relationship between the envelope and the interior spaces of the home, the lower the heating and cooling losses.

As with location and orientation, it is important to ensure the house’s airtightness to avoid drafts. Uncontrolled leakages through gaps can cause changes in the inside temperature (both in heating and cooling), energy-loss, drafts, humidity, etc. The envelope must be completely airtight in all its components: floor, windows and doors.

Ventilation and air renewal must be completely controlled to guarantee maximum interior air-quality, comfort and efficient energy use.
ES.

Family House by Joaquín Torres

Joaquín Torres, known as the “architect of the stars”, is one of the most popular representatives of contemporary Spanish architecture. Co-founder of ACero Arquitectos, together with Rafael Llamazares and Alberto Peris, the architect is the author of this modern single-family home, belonging to a famous football player and located in the seaside town of Gavà.

To achieve the best insulation, both of the ventilated façade and interior living spaces, Joaquín Torres specified the use of URSA’s TERRA range of materials.

Each URSA TERRA Vento panel is finished with an outer veil that protects the inside layer of mineral wool from weather conditions during construction of the ventilated façade. In addition, panels are covered by another black thin veil which repels water.

URSA TERRA was also the material chosen for the interiors of the building. These panels comply with all the thermal insulation requirements of the Spanish Technical Building Code. URSA TERRA offers a high fire class (A1), also increasing acoustic insulation and comfort in buildings.

To achieve the best insulation for the ventilated façade and interior living spaces, the architect prescribed the use of URSA’s TERRA range of materials.
The city of Chrudim lies in eastern Bohemia, in the region of Pardubice in the Czech Republic. A city of ancient origin (the first settlements in the area date back to the 5th century B.C.), Chrudim developed rapidly and came to be known as the “Athens of Bohemia”, owing to the great number of cultural and social events that took place within its walls.

This single-family housing development, built in wood and insulated with the URSA PUREONE system, is located on the outskirts of this beautiful city.

Wood, used for both the exterior and interior walls, is a completely sustainable, natural and renewable material. Moreover, the treatment process that wood follows in order to be ready to be used in construction is simple and requires much less energy than the processes to obtain other regularly used materials such as concrete or brick.

However, the thermal insulation provided by wood is not sufficient in extreme cold climates such as the one in this North-eastern Czech city. Looking to obtain maximum comfort for homeowners, project developers trusted URSA PUREONE, a soft mineral wool, natural and completely sustainable, just like wood. Made with natural components, it is manufactured using a water-borne technology that only releases vapour, making it fully recyclable at the end its life-cycle.

URSA PUREONE proved to be the perfect choice of insulation for the walls and roofs of the homes in this single-family housing development.
Can you imagine what life would be like in one of the biggest and most beautiful forests in Poland? Very soon, 8 families will find out, thanks to a housing development built near Michałowice, in Zalesie, in the Southern area of Poland.

This residential complex is formed by 8 spacious single-family houses. Each unit has a built-up surface of 224 square metres, leaving a generous 188 square metres useful floor area. The whole residential development stretches over 10,000 square metres of land.

Mineral wool blanket of 8 cm thick was chosen for the interior partitions while the attic were covered with thicknesses from 15 to 25 centimeters.

It comes as no surprise that, considering both the location of the plot – in the heart of a damp forest – and Poland’s climate, designers and constructors sought the best possible insulation.

Hence, URSA DF 39 became the perfect choice. This mineral wool, delivered in rolls, is an ideal material for insulating gable roofs, interior partitions, ceilings and external walls.
Wooden structure, thick solid walls, small windows…these typical medieval buildings erected in Central Europe up until the 18th century are known as Timbered Houses. Structural wooden beams were set in place and the spaces between them were then filled with stones and covered with cement or concrete.

Surprising and bold architectural designs, intricate ornamentation and brightly coloured painting have turned these traditional constructions into focal points for the many tour operators offering trips around the country to visit historical timbered houses that have survived through time.

One of these houses is located in Schkeuditz, in the German region of Saxony. Full of history, this city was founded in 981 and, since then, has witnessed important chapters of our past such as the terrible deeds of the Inquisition, the Seven Years’ War and the Second World War.

The attic of this historic single-family home was insulated using URSA CLICK 035, placed in 60 mm thick sheets. The design team leading the restoration project chose this system as the best option to provide the building with thermal and acoustic comfort, complying with the German KfW standard.

URSA CLICK is especially designed to insulate building envelopes from the inside, leaving façades unaltered and preserving their history and character.

This typical medieval building was insulated from the inside, leaving its façade unaltered and preserving its history and character.
FR.

Eco Quartier

This is not the first pilot project for the construction of an eco-neighbourhood. Some of the most famous pioneers are the districts of BedZED in England or Dongtan in China. Now it is the turn of the eco-neighbourhood of Seignosse, a municipality in the region of Aquitaine (France), with a little less than 2,500 inhabitants.

The Town Council has spent several years working on this project which was devised by the architects Marc Delanne, Jerome Lamaison and landscape designer, Xavier Arbelbide and that has been developed by the company ECCTA Engineering.

This ecological district stands on a six hectare plot and is home to several buildings, mainly a hundred single-family homes for sale and rent. Each apartment has a kitchen garden, which takes advantage of the rain water for irrigation. The neighbourhood also has a 500 square metre playground and important traffic limitations.

All the buildings have been designed to have low environmental impact. Orientation was a key factor, as well as the use of renewable energy, with technologies that are environmentally friendly and help to reduce energy consumption, such as solar panels, geothermal and aerothermal energy or biomass. And, of course, thermal insulation, which was achieved with URSA materials.

URSA Hometec 35 and URSA MRK40 were used for thermal and acoustic insulation of the penthouses and rooftops and URSA COUSTIC Roulé was employed to insulate interior partition walls. These three products belong to the URSA GEO range.

These materials are easy to install, sustainable and efficient. They contribute to indoor air quality and ensure a high degree of thermal and acoustic insulation. Due to the inorganic nature of the raw materials used, mainly sand, they show a remarkable reaction to fire, so they are the ideal solution for the insulation of roofs, walls, partitions and ceilings.

All buildings of the eco-neighbourhood of Seignosse (France) have been designed to have low environmental impact.
3.

Non Residential

Hotels
Hotels

Energy efficiency in hotels: “Just like home”

Energy and water consumption represent the second largest item on the hotel’s operating expenses, coming right after personnel costs. Hence, hotels all over the world are gradually beginning to become aware of the importance of implementing energy saving measures in their premises.

When we talk about numbers, hotels multiply those of houses significantly. We are talking about consumption data, yes, but also about the lower energy bills that we can achieve after implementing energy saving measures, fully recovering our investment in a few years.

Even though the reasons to start restoration projects with energy efficient criteria are more than justified, and many large hotel chains are already refurbishing their buildings, there is still a long way to go. Today, many hotels still waste energy daily, emitting large quantities of polluting agents. In many countries, Energy Performance Contracting (EPC) has become the primary model to follow, based on achieving energy savings by reducing demand.

In order to do so, we must be aware of all the factors that drive energy consumption in a hotel: building location, orientation, age, services that the hotel offers (for example, has it got a heated indoor swimming pool?) or even its rating.

Work on hotels can start by carrying out simple actions, such as changing the lighting fixtures, HVAC systems or raising awareness of both staff and guests to avoid water and lighting waste. But, if we really want to achieve significant savings, it is essential that the hotel building possesses efficient insulation, both in its outer envelope and interior partition walls (rooms, stairs, restaurants, lobbies, halls and other areas). It is the best way to maximise energy efficiency.

Additionally, we must also consider other factors when choosing to carry out restoration and refurbishment works in hotel buildings, choosing the best insulation from the first stages of the design process. We must not forget that clients seek the highest comfort levels, equal or superior to their own home. Without proper thermal and acoustic insulation, this becomes impossible.

Why choose URSA for hotel buildings?

- Because by installing proper insulation and other energy efficiency measures, mentioned above, hotels can save up to 90% of the energy they use.
- Because even though a hotel is not 100% full, proper insulation can avoid thermal differences between empty and occupied rooms.
- Because we will avoid unwanted noises from neighbouring rooms or loud guests, including noise from daily hotel operating activities.
- Because URSA’s insulation materials are sustainable and respect the environment throughout their whole lifecycle.
- Because insulating materials help build safer hotels in the case of fire. Our materials’ mineral wools have high fire-resistance ratings, and help to stop flames from spreading between rooms.
- Because these materials are low-maintenance, which means their actual cost is very low compared to the comfort obtained during the building’s life-cycle.
- Because an excellently insulated hotel, energy efficient and with low polluting emissions, will enjoy a better corporate image, attracting even the most demanding customers.
SK.
Sliezsky Dom Hotel

The Horsky Hotel Sliezsky Dom is located in the heart of the Tatra mountains (Slovakia), 1,670 metres above sea level and only 8 kilometres away from the Tratranska Lomnica ski station. Spectacular views, its facilities and services have made this hotel a unique place to practice sports, yes, but also a perfect place to disconnect and relax.

Nearly all rooms are decorated with wood. Even the wellness centre, one of the many exclusive services that this hotel offers. It is precisely in this spa area with sauna, whirlpool and steam bath, prone to humidity, where URSA materials were used to insulate external and internal walls.

The material chosen was URSA GLASSWOOL DF 39. This mineral wool, delivered in rolls, is specially designed to provide thermal insulation for ceilings. Design and construction team leaders sought to equip this hotel with the highest levels of comfort for guests, without compromising the mountain-style architecture that makes the building unique. Consequently, all 36 rooms and 8 suites, based on the original design, now enjoy the best thermal and acoustic insulation. The first, essential to preserve warmth in this cold environment, the second, basic to maintain visitor’s privacy and tranquility in this magnificent hotel.

The wellness centre, decorated with wood like the rest of the rooms of the hotel, is where URSA materials were used to insulate external and internal walls, prone to humidity.
In the centre of Slovakia lies the town of Žvolen, situated on the confluence of the Hron and Slatina rivers. The greatest tourist attraction of Žvolen is its magnificent and eerie ancient castle, which sits on a hill, dominating the landscape. This castle, known as Pusty Hrad (deserted castle) was built in the 12th century.

In addition, the Gothic Castle of Žvolen, located towards the south of the central square, is a national cultural heritage site and has become the seat of the Slovak National Gallery, with works by Rubens, Paolo Veronese and William Hogarth.

When considering accommodation, a very good option for tourists visiting Žvolen is the Hotel Tenis. A modern building which can hold all kinds of gatherings and conferences, also offering the possibility to practice a great number of sports or just relax.

If we choose the latter, we can enjoy a complete spa with three types of sauna, a Kneipp bath, a steam bath and several pools with jets.

In order to maintain optimal temperatures in these facilities and, above all, to insure acoustic comfort in the whole complex, the design and construction team decided to trust URSA.

The best thermal and acoustic performance was achieved using URSA GLASSWOOL TWP and URSA GLASSWOOL DF 40. The first product is a glass mineral wool, presented in panels and especially designed for interior light partition walls. On the other hand, the second product, also from the GLASSWOOL range, is a mineral wool insulating felt, ideal to achieve the highest thermal and acoustic insulation.
Vienna, 1873. The capital of the Austro-Hungarian Empire is celebrating the World Exhibition and, to commemorate the historic occasion, the Vienna State Opera is built.

We are talking about the city’s most splendid era, preparing to receive hundreds of visitors from all over the world.

The luxurious Palais Hansen Kempinski Vienna hotel is built to welcome the visitors, in the Ringstraße boulevard; in the heart of the city, only 10 minutes away from St Stephen’s cathedral and with the best views of the city’s main buildings.

139 years later, its owners decided to completely refurbish the building. Yes, the high quality fabrics and carpets would be kept, but placed beside the newest technologies and highest comforts for the hotel’s clientele URSA played a major role in the restoration works of the exclusive 5 star hotel. Its 152 rooms, two restaurants and three bars are all insulated with URSA’s GLASSWOOL range of materials. In particular, hundreds of metres of the URSA GLASSWOOL TWF 1 and URSA GLASSWOOL ACP2/VF mineral wools were used in the project.

The hotel was opened to the public again in 2013, completely updated and with an impressive spa, complete with gym, sauna area, 6 beauty treatment rooms and a whirlpool. Undoubtedly a perfect place to relax after a long day walking along the Danube or visiting the Sigmund Freud Museum, both located in the surroundings of this state-of-the-art hotel which maintains all the charm and glamour of its glorious past.
ES. Fira Barcelona Hotel

Designed by the prestigious architect Jean Nouvel, together with the architecture practice Ribas&Ribas, the Catalonia Fira Hotel is a novel and innovative building, using the URSA AIR range materials.

The hotel's HVAC system has been designed as a network of air distribution ducts. More than 9,000 square metres of air conditioning ducts were built with URSA AIR Alu-Alu mineral wool panels. This product was chosen owing to its outstanding certified technical qualities and high environmental ratings.

The advantages of HVAC system ducts built with URSA AIR mineral wool panels, as opposed to traditional metal ducts, are endless. Mineral wool panels provide the thermal insulation requirements stated by the Spanish RITE (Regulations on Building Heating Installations) standards. Furthermore, the acoustic absorption properties of URSA AIR products reduce normal sounds produced by ventilation and air conditioning units, avoiding the spread of unwanted noises throughout the duct network.

The Environmental Quality Certificate, awarded by the Generalitat de Catalunya to the URSA Ibérica factory confirms that URSA AIR mineral wool is a sustainable, environmentally friendly material, owing to its 35% recycled material content.

The Catalonia Fira Hotel is located in the Plaza Europa, in the area of Hospital de Llobregat, a few metres away from the Fira Barcelona Gran Via. The building is set within an impressive vertical garden, formed by two 110 metre high towers, joined by an extraordinary panoramic restaurant. Black and white play an important dual chromatic role, both in the building's façades and in the 357 rooms. The hotel also has a panoramic terrace, outdoor swimming pool, solarium, two bars, a fitness area with a heated indoor pool, 11 meeting rooms and 140 parking spaces.

The hotel's HVAC system has been designed by Jean Nouvel as a network of more than 9,000 square metres of air conditioning ducts built with URSA AIR Alu-Alu mineral wool panels.
URSA at its best. Hotels

PT.
Myriad by SANA Hotels – Vasco da Gama Tower Lisbon

The main features at the World Expo 1998 in Lisbon were the Vasco da Gama tower and the skyscraper rising beside it. Today, this emblematic building holds the hotel Vasco da Gama Tower Lisbon, a 145 m high steel structure, designed by the architect Regino Cruz. Its large geometrical skeleton resembling the sail of a caravel, dominates its surroundings. The building is formed by two, clearly different, supporting elements: a reinforced concrete nucleus, crowned by the observation deck, 120 m above the ground; and the steel structure rising from the base of the tower to the top of the deck.

The “Vasco da Gama Tower Royal Hotel”, integrated within the tower and sitting over the River Tagus, is 20 storeys high and holds 186 rooms. The building is formed by two main bodies, resembling two sails, built on either side of the reinforced concrete nucleus, opposite the steel structure. Between them, 3 panoramic elevators take visitors to the top of the tower’s observation deck and the panoramic restaurant. The complex was designed by Portuguese architect Nuno Leonidas.

In 2004, the Expo’98 managing society – Parque Expo – closed the building down, owing to its high maintenance costs and the need to make the most of the unexploited space available. However, restoration and refurbishment works soon started, completing today’s Vasco da Gama Tower luxury 5-star hotel that belongs to the Portuguese chain SANA.

More than 20,000 square m of URSA GLASSWOOL P4652 mineral wool panels were used in this hotel. These panels are normally used as exterior insulation in ventilated cavity walls, both in new construction and restorations. The panels are fixed to the external side of the supporting wall, while a structural metal system allows fixing light panels or cladding, protecting and decorating the façade.
Opened barely two years ago, the Olomouc Centre hotel is one of the nearly one-thousand Ibis hotels (Accor Group) that are spread around 58 countries all over the world. For many years now, Ibis has been renowned as an environmentally conscious company, ensuring that hotels meet sustainable criteria. More than half of the chain’s buildings, including the Olomouc Centre, have obtained ISO 14001 certification, demonstrating their commitment towards the environment. Furthermore, the Accor Group chain is especially careful when it comes to quality, following the ISO 90001 standard’s principles conscientiously.

Aiming to honour these commitments, building team leaders opted for URSA materials for the insulation of all interior partition walls. URSA GLASSWOOL TWP 1 mineral wool was chosen, which is especially designed to insulate light interior walls, such as the partitions between the 90 rooms of the building. The Olomouc is an urban hotel, in the centre of the city of Olomouc, in the eastern Czech region of Moravia, approximately 300 km away from the capital, Prague.

Though considered a business hotel, many of the tourists that visit the city every year to admire the impressive Holy Trinity Column, listed as a UNESCO World Heritage Site, choose to stay at this comfortable and modern hotel.
Non Residential Offices
Efficient offices, good places to work

8 hours a day, 40 hours a week, 160 hours per month and 1760 hours every year. We spend more time at our office or workplace than at home. Hence, it is really important that they are pleasant, healthy and well designed spaces.

An efficient office is one that enjoys natural sunlight, good indoor air quality, outside views and an appropriate temperature. All these characteristics help increase employee performance greatly. There are numerous examples: recently, World Green Building Council published a report which showed that productivity increases by 11% when offices benefit from fresh air. This same report showed that good lighting can boost staff performance by 23% or that workers who enjoy outside views will see their memory increase by up to 25% more than those who work in interior offices.

Office building air-conditioning can also have a decisive effect on staff performance and increase the chances of accidents happening at work. The ideal cooling temperature for an office space should not drop below 26°C or rise above 21°C in heated spaces.

Of course, the best way to maintain a stable temperature, without having to make excessive use of air heating and cooling systems, is to have a properly insulated building.

But, as well as designing healthy indoor spaces, we must not forget an office building’s capacity to save vast amounts of energy, which will in turn become large savings for companies. Office air conditioning represents a large percentage of energy consumption. Thus, badly managed HVAC systems can bring huge energy efficiency deficiencies. Proper insulation of offices and workspaces can reduce air cooling demand by up to 25%.

If each office enjoys optimum insulation, whether adjacent offices or spaces are empty or occupied, it will not affect the comfort of the workplace. Likewise, neighbouring vacant offices will not have a negative effect on preserving room temperature and optimum working conditions.

Insulation will also affect acoustic comfort. Normally, office work requires concentration, impossible in uncomfortable environments with conversations, telephones, computer equipment or air-conditioning noises from other spaces. Thus, it is vital that each workspace behaves as an independently insulated area, where noises are left outside and silence and calm remain.

Last, but not least, we must not forget that efficient office buildings will help decrease polluting emissions, an important issue in our already highly polluted cities.

Why choose URSA for office buildings?

- Because using the best insulation makes offices comfortable spaces to work in efficiently.
- Because a properly insulated office will maintain a stable temperature, reducing the need for continuous use of air-conditioning systems.
- Because correct insulation can avoid thermal imbalance between occupied and vacant offices.
- Because good acoustic insulation leaves unwanted noises outside.
- Because these materials are low-maintenance, which means their actual cost is very low compared to the comfort obtained during the building’s life-cycle.
- Because good insulation brings significant energy savings in all buildings.
- Because our materials contribute towards reducing polluting emissions, are sustainable and respect the environment during the whole lifecycle.
- Because insulating materials help build safer offices in the case of fire. Our materials’ mineral wools have high fire-resistance ratings, and help to stop flames from spreading between workspaces.

We must not forget an office building’s capacity to save vast amounts of energy, which means large savings for companies.
Built in 2008, with a budget of over 15 million euro, the Pfizer-Universidad de Granada-Junta de Andalucía Centre for Genomics and Oncological Research (GENYO), is a mixed centre with stakes held by the Regional Ministry of Economy, Innovation, Science and Employment, the Regional Ministry of Equality, Health and Social Policies, the University of Granada and the pharmaceutical company Pfizer. GENYO was conceived as a place for excellence research in genomic medicine, studying the genetic basis of human diseases – especially cancer –, placing special emphasis on genetic disorders related to inheritance and reactions to certain medicines.

GENYO was created as a space for multidisciplinary investigation where different professionals from the health, academic and business worlds interact. Their work allows new illnesses to be diagnosed, prevented and treated, on the base of joint and coordinated application of first-class knowledge on different aspects of genetics.

URSA feels especially proud to have taken part in this project, where 6,500 square metres of URSA GLASSWOOL were used, a glass mineral wool with no facing. This material was used to insulate interior partition walls in the new complex.

Furthermore, developers of this new project also counted on URSA AIR P6085, employing 1,500 square metres of this mineral wool panel faced with reinforced Kraft aluminium at the external side and a micro-perforated reinforced aluminium layer at the internal side, for the construction of ducts.
Built in 2008, the RheinauArtOffice has become one of the most modern office buildings in Germany. This unique building houses Microsoft’s headquarters in the country that chose the RheinauArtOffice for its open nature and its potential for expansion. It currently holds 300 workers from the American computer company and twelve associated enterprises.

Located next to Cologne harbour on the Rhine, the offices are perfectly communicated with the city centre, the motorway, railway station and the airport.

The architects Rainer Freigeber and Stephan Schutt worked with an innovative architectural concept in which openness and free-flowing spaces were a priority. But they were also responsible for the choice of high quality materials, providing this office space with the most sustainable and energy efficient systems and solutions.

They chose geothermal energy for building air conditioning, double-glazed windows with external solar protection and URSA materials for the insulation. In particular, URSA XPS D N-III-L was installed, an extruded polystyrene panel with a smooth surface, which is used to insulate roofs as it allows workloads to be placed directly on the insulation surface without damaging it.

Insulation systems with this type of panels form a continuous layer without the presence of thermal bridges and, therefore, without the risk of condensation formation. In addition, the XPSs low water absorption factor and resistance to freeze–thaw cycles (an important factor to consider in a country with a climate like Germany) guarantee durability of the insulation. The promoters of this ambitious project also selected URSA FDP 2/Vs, a glass mineral wool panel coated on one of its sides by a black glass mesh that acts as a water repellent, making it an ideal insulation for ventilated façades.

Microsoft’s headquarters in Germany are an innovative architectural concept where openness and free-flowing spaces are a priority, and where the most energy efficient systems have been implemented.
Poznan is one of the oldest cities in Poland, settled on the bank of the river Warta and capital of the region known as Greater Poland. More than one thousand people live in its metropolitan area, one of the country’s biggest centres for commerce, industry, sports, education, technology, tourism and culture.

Experts’ estimations show that Poland will create 100,000 new jobs in the service and new technologies sectors. Poznan is already showing its credentials to convince many investors to choose this city to install their businesses. Amongst the noteworthy enterprises located in Poznan is Allegro, one of the most important online auction sites, who chose the Pixel Businesspark to settle its offices. The estate is made up of five buildings. The development of the first one was finished in 2012 and has got a built up area of 33,000 square metres. In order to limit electric energy consumption, the architecture team, JEMS Architekci Ltd, gave priority to energy efficiency and sustainability in all spaces. To do so, the façade was designed to allow the maximum amount of light to penetrate the building. URSA GLASSWOOL TEP was the chosen insulating material. These mineral wool panels, non-combustible, non-laminated and permeable, are usually used in ceiling insulation, owing to outstanding acoustic insulating properties, minimising sounds from steps and other noises.
The financial crisis that has shaken the whole of Europe hasn’t left Budapest unscathed. The capital of Hungary has seen many of its projects and investments canceled. Luckily, this was not the case with the Laurus Offices building, developed by one of the major housing investors in the country: Erste Group Immoment.

Completed in 2011, this office building is the only one of its kind delivered in Pest in the past few years, presenting a strong trust pledge on Hungarian economic recovery and on new development of infrastructures.

This office building is special not only for its modern architectonic design and for its high-standard technological solutions. Located only 10 minutes away from the airport and the city centre, it enjoys excellent public transport communications.

The 15,000 square metre project was divided into three office buildings with 5 to 7 floors and has an underground car park with 240 parking spaces. Following a university-like style, the offices rise over an enclosed garden.

The company wanted a flexible space that was capable of accommodating a big range of businesses, with different sizes and diverse needs. One of the three buildings that make up the complex has been rented to a business company of international prestige. The remaining space still available is being rented by the state agent CB Richard Ellis, as an exclusive agent.

Both the architectural team, S.A.M.O. KFT, and the director of the project, Óbuda-Újlak Zrt, decided on a glass façade, aiming to make the most of sunlight. Beneath it, insulation was placed.

URSA provided nearly 3,500 square metres of URSA GLASSWOOL KDP2, insulating the envelope in a 12 cm thick layer. In addition, the client also chose URSA’s GLASSWOOL TWF 3 to insulate all interior partition walls with a 5 cm thick layer.
They wanted a completely efficient building, fully equipped with the latest state-of-the-art energy technology, and used all the resources available to achieve it.

The iba AG Company is located in Fürth, a Bavarian city only 10 km away from Nuremberg. With over 100,000 inhabitants, this ancient city – founded by Charlemagne in the 10th Century – has become an important business centre.

As a company specialised in measurement and automation systems, at the forefront of technology and innovation, iba AG wished to provide their new headquarters with the latest technical advances, such as solar energy systems for water heating and cooling.

Furthermore, modern equipments are complemented with passive systems endorsed by the Passivhaus standard, widely respected in Germany. This environmental standard aims to construct buildings with strong insulation, rigorous air leakage control and maximum interior air quality, as well as taking advantage of solar energy to improve air conditioning. Its goal is to produce buildings that reduce energy consumption by 70%, compared to normal ones.

Guided by these principles, the building envelope was constructed as a wooden structural system. HVAC ducts were insulated with URSA AIR Zero A2, chosen by its high fire-resistance ratings, exceptional thermal insulating qualities, handling flexibility and easy installation.

Iba AG wished to provide its new headquarters with the latest technical advances, while complementing modern equipments with passive systems endorsed by the Passivhaus standard.
We are looking at the tallest wooden building in the world, 8 storeys high and located in Dornbirn, Austria. Moreover, this office tower designed by CREE (Creative Renewable Energy and Efficiency) incorporates the latest solutions in energy efficiency and sustainability.

The building uses wood as the primary structural support and is designed in accordance to the Passivhaus standard. Another of its key features is that it incorporates prefabricated building modules, which have halved traditional construction time. The glass and concrete façade is designed to minimize thermal bridges. It integrates a photovoltaic construction system (BIPV), solar panels and a double glass curtain. In addition, facilities such as an efficient biomass boiler and passive cooling – thanks to the opening of the building’s windows – have also been included. All these innovative ideas were incorporated by the architect Rhomberg Bau, who developed the project, along with an interdisciplinary research team (architecture, construction, building, and static physics), within the framework of the program “Factory of Tomorrow”. The authors of this project can boast having achieved a outstandingly efficient building, with a very satisfactory emissions balance regarding the materials used.

As a building material, wood has been widely used throughout history. However, it is now experiencing a moment of splendour, as it has proven its durability. In addition, it is a renewable material that causes much less CO₂ emissions than other types of materials used in building. Rhomberg’s team is now studying the possibility of using wood in buildings up to 30 storeys high.

The 2,500 square metres used for offices rest under a roof isolated with URSA PUREONE SF 32, 16 cm thick. This material is indicated for the insulation of wood structures, roofs, interior partition walls and ceilings.

The authors of this project can boast having achieved an outstandingly efficient building with a very satisfactory emissions balance regarding the materials used.
5.

Non Residential Shopping Centres
Shopping Centres

Leisure and security

Cinemas, restaurants, shops, gyms... and especially thousands and thousands of people who visit them every day. A shopping centre is a place for leisure activities, designed to provide fun in a pleasant environment. However, its high number of workers and visitors make security a key point in this type of premises.

Its thousands of square metres are filled with electrical fittings, flammable materials and a myriad of situations in which a fire could start. This is why it is so important to implement a security plan that not only considers evacuation of persons in case of fire, but also to count on materials with a high resistance to flames, which can act as firebreaks and delay the rapid spread of fire, increasing evacuation time.

But in addition to security in the case of fire there are other factors that must be taken into account when designing a shopping centre. All spaces must be comfortable, a condition that will be guaranteed by air conditioning, indoor air quality and the absence of disturbing noises.

In order for air conditioning not to become the shopping centre’s largest expense, it is imperative for it to enjoy good thermal insulation that does not force both the heating and air conditioning to be at “full power” both in winter and in summer. Energy saving will be critical to the profitability of this type of facilities, which generally count their square metres by the thousands.

These types of buildings have to be completely environmentally friendly, not only as a brand image and corporate social responsibility, but also to prevent them from becoming huge polluting blocks with high levels of CO₂ emissions.

Energy management and efficiency in shopping centres is marked by Brussels and regulated by the European Union. In addition to the various national regulations, the European Directive 2012/27/EU must be taken into account. This regulation states that Europe is facing unprecedented challenges resulting from increased dependence on energy imports and scarce energy resources, and the need to limit climate change and to overcome the economic crisis.

Therefore, it considers energy efficiency as a valuable means to address these challenges. It improves the Union’s security of supply by reducing primary energy consumption and decreasing energy imports. It helps to reduce greenhouse gas emissions in a cost-effective way and thereby to mitigate climate change. The change to a more efficient economy in energy consumption largely depends on efficient management of the retail centres of the European continent.

Why choose URSA for shopping centres?

Because proper insulation of a retail centre will contribute to security in the event of fire. URSA’s mineral wools have high fire-resistance ratings, and help to stop flames from spreading between rooms, acting as firebreaks which can increase evacuation times for staff and visitors, who may also have reduced mobility.

Because these materials are low-maintenance, which means their actual cost is very low compared to the comfort obtained during the retail centre’s life-cycle.

Because an excellently insulated shopping centre, energy efficient and with low polluting emissions, will enjoy a better corporate image, attracting even the most demanding customers.

Because managing so many thousands of square meters makes it necessary to carry out a thorough control of energy efficiency, both in the building’s structure and facilities. Otherwise, the shopping centre will become a real energy drain and a major producer of pollutant emissions.

Because our materials are adapted to the needs of every space: cinemas, shops, restaurants...

Because insulation will avoid unwanted noises from neighbouring stores or in the shopping centre’s hallways and corridors.

Because URSA’s insulation materials are sustainable and respect the environment throughout their whole lifecycle.

Energy saving will be critical to the profitability of this type of facilities, which generally count their square metres by thousands.

Because insulation will avoid unwanted noises from neighbouring stores or in the shopping centre’s hallways and corridors.

Because URSA’s insulation materials are sustainable and respect the environment throughout their whole lifecycle.
Downtown Madrid residents demanded a space that would cover their sport and leisure needs. With this goal in mind, the City Council knocked down the old Barceló Market and erected the new Barceló Community centre, a hub that comprises a modern market, a public library, a sports centre and an underground car park interconnected with pedestrian areas and gardens.

Barceló Market’s 7,150 square metres are distributed in 4 levels. Escalators allow access from the street to its viewpoint-roof and connect all floors, while opening the building to pedestrian streets and illuminating interior spaces.

Above it, the Barceló sports centre, has an area of 2,850 square metres with a big picture window open to the sky, has the least number of supports over the market and a large opening in one of the façades. This was done through large supporting elements in the base and in the roof of the sports centre. The roof was insulated with 4,000 m of extruded polystyrene URSA XPS square meters. These smooth surfaced, ship lap edged panels, are especially indicated for this kind of use, in ventilated roofs, inverted roofs, tiled or green surfaces.

The 1,950 square metre library connects the block with Isabel la Católica School. Conceived as a bridge-building, it frees the area beneath it enlarging the school playground. To do so, 2 large trusses span over this wide space enduring the weight from the 3 building floor slabs. The lower slab hangs from the truss by means of tensioned steel cables.

The façades of the two upper floors – the reading and meeting areas – are covered with glass panels which bring natural light into them. The parking and the new market’s structure are made of reinforced concrete, with rectangular pillars and continuous slabs in the basement and waffle slabs supporting the market.
Clove House – a highly energy efficient, 7 floor office building above a commercial gallery – is the first multi-purpose shopping centre in Rostov-on-Don. Since May 2010, the over 1 million inhabitants of this city crossed by the river Don can enjoy a large commercial space devoted to top brands of furniture, lighting, interior decoration, bedding and accessories.

This intelligent building occupies more than 24 thousand square metres, of which 10,000 form the shopping centre. All offices are equipped with thermal and acoustic insulation and fire protection. In addition, it incorporates the most modern facility control technologies (air conditioning, lighting, Internet).

The ambitious project, implemented by Group ADP and Champman Taylor, has leased its offices to companies such as Bayer, Volvo, Siemens or Microsoft. In addition to wide recognition among residents, the building has won major awards for its energy efficiency. In 2008, Clover House was awarded the 2nd place in the nomination “multifunctional complex” of the Federal annual award in the sphere of real estate - Commercial Real Estate Federal Awards 2008.

The team of architects from LLC Sevkavnipiagroprom, LLC MK-S and the construction company LLC Mr chose URSA GEO P30 for the building’s insulation. This high performance material provides optimum insulation, both thermal and acoustic, in triple-layered walls and buildings façades, whatever their height.

Manufactured with GEO Eco-technology, URSA GEO helps maintain indoor air-quality in the spaces where it is installed. The high quality, cost-effective GEO range of materials is manufactured with the most advanced technology and offers a high level of thermal insulation, along with excellent sound insulation properties. Moreover, due to the inorganic nature of its raw materials – mainly sand –, it shows an extraordinary reaction to fire.
Until recently citizens of Voderady, Bratislava and surrounding areas had to travel more than 50 Km to shop in any outlet. But the opening in October 30, 2013, of One Fashion Outlet Mall in Voderady, has made it possible for them to find the best brands at reduced prices. In a first phase, this shopping arcade had 15,000 square metres and 70 shops, with brands such as Nike, Adidas, Benetton, Levi’s, Echo, Mustang, etc.

Investors plan to expand the centre in two more phases. Once the project is finalised, in the autumn of 2015, it will offer visitors a 35,000 square metre area, 130 stores and a car park for 2,500 vehicles. The total investment is 65 million euros, 30 of which have been earmarked for the 1st phase.

According to its director, Andrej Brna, the difference between this mall and other outlets is “that it includes a leisure area with restaurants and cafes, a more sophisticated design and ecological building materials”.

Its design was carried out by Holder Mathias Architects, a London office specialised in projecting outlets. Its team designed a space surrounded by plants, attractions for children and even a lake. Shops are located on both sides of a glass roofed shopping avenue protecting shoppers from the rain.

The construction company, Zipp, elected URSA GLASSWOOL DF 39 for the insulation of inner walls and ceilings. This is a very versatile mineral wool insulating material in the shape of rolls. URSA GLASSWOOL DF 39 is particularly indicated for the insulation of pitched roofs, vertical constructions and horizontal structures offering a high degree of thermal and acoustic insulation and fire protection.

The difference between this mall and other outlets is that it includes a leisure area, a sophisticated design and ecological building materials.
6.

Non Residential Educational Centres
“Silence, please”
You have not gone to a nursery school, school, college or university if you have never been asked to keep silent. Because, in order to pay attention to teachers’ lessons it is essential to be surrounded by a scrupulous silence which will promote learning performance.

Proper insulation will of course not prevent the students from talking or making noises with their games, but it will indeed decrease these dramatically, owing to sound absorption properties. Thus, these materials will prevent noise from spreading between different facilities or from one classroom to another, and will not allow unwanted sounds in from the outside.

In the case of schools and education centres, insulation will also have many other functions. As well as preventing distracting noises, it is important to provide a high level of comfort to the facilities. Temperature control and indoor air quality are also important to make children feel like at home.

Recent studies also corroborate that it is essential for educational centres to have abundant natural light, good ventilation, acoustic control and environmental education programs. If these assumptions are true, students’ performance could be increased up to 25%.

But in addition, research provides other curious facts. Good lighting in these facilities can increase math learning by up to 20% or accelerate the reading learning process by 26%.

No less important is the safety of children that spend a good number of hours a day in their schools and learning.

For this reason, insulating materials must have high fire resistance and performance, acting as firebreaks that provide longer time for evacuation.

Finally, when planning a building for educational purposes one must take into account that it must be designed to endure many years to come. Therefore the materials we choose must be sustainable and of good quality, to help the building enjoy a long life in the best conditions.

Why choose URSA for educational centres?

- Because with proper insulation of an educational centre, significant decrease of noise will be achieved, something that will notably influence the performance of schoolchildren.
- Because URSA’s insulation materials are sustainable and respect the environment throughout their whole lifecycle. Children must learn the importance of respect for nature and the efficient use of natural resources.
- Because although all classrooms are not occupied at the same time, correct insulation will avoid thermal imbalances between empty and occupied rooms.
- Because these materials contribute to safety in the event of fire. Their mineral wools have a good fire-rating and help to stop fire spreading between the different facilities of an educational centre.
- Because a good thermal insulation ensures efficient air conditioning and guarantees indoor air-quality.
- Because these materials are low-maintenance, which means their actual cost is very low compared to the comfort obtained during the building’s life-cycle, which, in nearly 100% of cases will be very long.
Liberec, the 5th city of the Czech Republic in terms of size, is only a few kilometres away from Germany and Poland. On October 1953 the Technical University of Liberec opened its doors to its first 259 students. In its more than 60 year history the centre has undergone major transformations.

When founded, it was called “Institute of Mechanical Engineering” and its first classrooms were in the attic above a secondary school. Today, it has 6 faculties and 2 specialized institutes: the Institute of Nanomaterials and the Institute for Advanced Technologies and Innovation. In the University’s introductory letter, the provost states that students who attend this centre aspire to a high-quality education, to be able to study in a friendly atmosphere with the best facilities, to learn different subjects and practice a variety of sports.

In contrast to most universities in the Czech Republic, the TUL offers students the possibility to stay on campus, fully equipped with modern student halls and residences. The TUL is also renowned for its excellent results in the fields of science and research. E.g., industrial manufacturing technology of nano-textiles was discovered in its laboratories. This new generation of materials allows changing the properties of body tissue to prevent contamination or to repel bacteria and viruses. These results only increase the renowned reputation of the institution.

The over 9,000 students who currently fill the University’s classrooms created the need to continue progressive expansion of the campus. In one of the latest extension, a new building was constructed and URSA TWP 1 was chosen for the insulation of all interior partition walls. This insulating material, in the form of boards, was developed primarily for its use on lightweight partition walls and pitched roofs. It is a non-combustible product with an excellent fire class: A1.
In September 2010 a new institute, funded by the EU in the Czech Republic, was inaugurated with a conference. The CEITEC [Central European Institute of Technology] divides its activity between biological research and the study of new materials and advanced technologies. It was co-financed by the European Program for Research, Innovation and Science and the European Regional Development Fund (ERDF) and implemented by a consortium of six partners, universities and research institutes, led by Masaryk University.

This centre, fully equipped with state-of-the-art research infrastructure, matches Czech R&D teams with their European counterparts, as well as existing research infrastructures in Europe.

The facilities will be completed very soon, when the scientists transfer to the new laboratories from the campuses of Bohunice and Vrchem Pod Palcekeho in Brno, although scientific research has been in operation since the beginning.

Among the innovative research carried out in this centre, interesting highlights include work on special hydrogels used for bone recovery, smart materials used in aircraft that can report on their own defects, biosensors that can detect disease at an early stage or a hypodermic chip that can measure vital functions and alert a doctor if these are not correct.

The centre’s uniqueness is based on the interconnection and cooperation between the research teams from all its associated institutions. This European “Silicon Valley” has received praise from various education institutions and companies around the world. The CEITEC hosts 600 scientists and nearly double the number of students.

URSA has taken part in the construction of the new administration building of the CEITEC, which was insulated with URSA GLASSWOOL TWP 1 and URSA GLASSWOOL TWF 1. Both are intended for the insulation of light partition walls, the first manufactured into panels and the second delivered as rolls.
Novo Mesto is a municipality in the Republic of Slovenia, founded in the Middle Ages with the German name of Rudolfswert in honour of its founder, the Archduke Rudolf IV of Austria. With close to 42,000 inhabitants and a very young population, Novo Mesto hosts four primary schools. One of them is the Bršljin OŠ primary school, built in 1971 and located in the local community of Bršljin.

The school’s classrooms hold close to 500 students and, although the building was rebuilt in 1991, it has recently undergone deep restoration work, responding to energy efficient and sustainable criteria. In addition to renovating the heating systems and replacing doors and windows by other, more efficient, newer ones, URSA materials were used for the of the façade and roofing insulation.

Thus, two materials from the GLASSWOOL range were chosen: URSA SF 34 and URSA SF 38. Both materials are formed by compressed mineral glass wool manufactured into rolls and can boast several quality and sustainability certificates.
7. Non Residential Sports Facilities
Sports Facilities

Goal of reducing energy demand

Outdoors or indoors. Any sports facility, even small ones, becomes a major consumer of energy in its daily operation. Either for air conditioning of swimming pools, for hot water, or for intense lighting of tracks or playing fields, it is necessary to use energy in a rational way so that consumption does not soar.

Sport and energy efficiency must go hand in hand and be applied in any sports facility, either public or private and whatever its size.

Numerous sports centres have had to close their doors due to the ballast that their energy costs meant. In fact, energy is the second largest item on these facilities’ budgets, only behind that of staff. It significantly affects proper functioning, both at economic and profitability levels, as at social or public level.

To reduce this consumption there are many and varied possibilities ranging from the replacement of boilers, the installation of solar panels, the update of air-conditioning systems and, of course, insulation of both the outer envelope and interior partitions, which will reduce the energy demand of the facility. These measures are adaptable to the dimensions and the reality of each sports facility; whether it is a small fitness centre or a football stadium with a capacity for thousands of spectators.

With good energy management and implementing sustainable systems and solutions, a sports facility can see its energy costs brought down by over 20%. A sports centre or facility that enjoys correct insulation can reduce its energy demand by more than 30%.

In addition to a good thermal insulation that minimises the cost of air conditioning, it is very important that sports facilities are acoustically insulated with materials which are capable of absorbing noise and prevent it from expanding between the different rooms.

Indoor air-quality, fire safety and lighting are other factors to take into account in this type of facilities to ensure their efficiency, comfort, health and safety.

Why choose URSA for sports facilities?

- Because this kind of facilities have high energy consumption, which needs to be rationalised to ensure viability.
- Because with proper insulation, a sports facility can reduce its energy demand between 30 and 40%.
- Because URSA materials ensure a high degree of acoustic insulation, which is required for this type of centres, where noises are often generated in daily activities.

Energy is the second largest item on these facilities’ budgets, only behind that of staff.

- Because these materials are low-maintenance, which means their actual cost is very low compared to the comfort obtained during the sports centre’s life-cycle, which is normally intended to be very long.
- Because insulating materials contribute to safety in the event of fire.
- Because our materials’ mineral wools have high fire-resistance ratings, and help to stop flames from spreading between rooms, acting as firebreaks which can increase evacuation times in sports facilities.
- Because URSA’s insulation materials are sustainable and respect the environment throughout their whole lifecycle.
The National Stadium in Warsaw (Narodowy Stadion) which sits over 58,000 spectators, is the largest one in Poland and one of the most modern pitches in Europe. Its construction began in 2008 and ended in 2011, being the opening match played in February 2012. It has been the venue for the UEFA Europa League 2014-2015 final.

Inspired by the Commerzbank-Arena in Frankfurt, it has a retractable PVC roof which unfolds from a spine suspended in the centre of the field. The 240 x 270 m roof structure has its central spire located at a height of 124 m over the Vistula River and 100 m above the playing field.

Since low temperatures can hinder the practice of open-air sports, the stadium is equipped with a heated lawn, training field, illuminated façade and an underground car park. It can also host concerts and other sporting and cultural events. It boasts the largest conference facilities in Warsaw, holding up to 1,600 people. The red and silver tones of the metal mesh façade evoke Poland’s national colours.

Despite its closed roof, the stadium is an open structure with a similar temperature inside and outside its walls. Hence, the Constructors, a German-Austrian-Polish consortium led by the Alpine Bau group, and the architects – JSK Architects SL, GMP-von Gerkan, Marg und Partner Architekten and SBP-Schleich Bergermann und Partner – trusted URSA for the insulation.

For that purpose URSA AKP3 / V was used, a mineral glass wool insulation material presented in panels and reinforced with a black glass mesh fabric on one of its sides. Besides a low thermal conductivity, this material offers exceptional sound absorption and a high fire resistance rating (class A1). URSA TWP Silentio was also used due to its great capacity for sound absorption, non-combustibility and great resistance to weight loads.
Muscovites can now ski any day of the year, either on freezing February day or on the warmest July afternoon. That is so thanks to the Snej.com sports centre, the largest indoor ski slope in Europe, with more than 400 m long, 60 m high and with a gradient of 65 m.

The 24,000 square metre resort could comfortably fit 4 football pitches. The sports complex includes a chairlift, a surface lift, an ice-ring to skate or play hockey, a fitness centre, a 4,000 square metre health and wellness area and a kids club which allows parents to relax while practicing a variety of sports. Enough appeal to attract more than 400,000 visitors a year.

Temperature is kept constant at -4ºC/-5ºC 365 days a year. Therefore, proper insulation is essential, helping to reduce thermal fluctuations with the outside while contributing to maintaining a stable temperature indoors. Both the architect, from the office LLC Snegny Gorod, and the construction company of this mega-project, Spetsstroytrest-36, coincided in choosing URSA XPS as the best insulation for this state-of-the-art complex.

URSA XPS, manufactured with extruded polystyrene, is a high quality insulating material with one of the lowest thermal conductivity on the market. These boards’ high resistance, rigidity and durability are among their many advantages, guaranteeing their top performance throughout the whole life of the building where they are installed. A clear example of its durability is that, in addition to building envelopes, basements or interior walls, it is also used in roads and even in airport runways.

Given the extreme conditions of use of the facility – high moisture, direct contact with the ground, support of a large load – the choice of URSA XPS has proven the perfect solution for the Snej.com Sports Centre’s insulating needs.
ES.
San Mamés Stadium

After four years of construction work, Athletic de Bilbao fans were able to enjoy their new stadium on September 2013, a venue with 53,000 seats, which shares the name of its legendary predecessor, located few metres away. The building’s project team sought to achieve total air tightness for the roof, while maintaining highly permeable façades and perfect acoustics.

URSA is very much present in this new facility: 8,000 square metres of 80 mm thick URSA TERRA Vento and 13,000 square metres of 75 mm thick URSA GLASSWOOL have been used to insulate ceilings. URSA GLASSWOOL was also used in 50 mm thick sheets to cover nearly 14,000 square metres of interior partition walls.

URSA TERRA Vento is traditionally used to insulate ventilated façades. Each panel is finished with an outer veil that protects the inside wool layer from weather conditions. However, more and more contractors are using these versatile panels to achieve top insulation indoors, in false ceilings or partitions, acting as a base for mineral wool.

URSA GLASSWOOL is a natural, high-quality, cost-effective, extraordinary fire resistant mineral wool with outstanding thermal and acoustic insulation properties; the ideal choice for the insulation of interior partitions walls.

The engineering consultant IDOM is responsible for this project that has changed Bilbao’s physiognomy without altering its environment. IDOM is working towards achieving top ratings in LEED certification for the new San Mamés Barria. Company representatives believe the process will be completed towards the end of 2014, certifying this stadium as a pioneer in including sustainability in the whole design and construction process: from first stages to materials used.
In December 2013 it hosted its first rides, although its official opening was planned for the 2012 Olympics, which Paris aspired to organise and that finally took place in London.

Located in the city of Yvelines, the fact that the French capital was not chosen to host the Olympic Games did not prevent the sports building project to be carried out. It is the new headquarters of the French Cycling Federation and also has a second arena, suitable for the BMX discipline. This track, covered and lit, is the biggest in Europe and has two ramps, 4 and 8 meters high.

The facilities, built on a 15 hectare plot, are complete with landscaped gardens, offices, shops, restaurants, hotels and residences for students and athletes.

Close to 74 million euros were invested in the project, constructed by the consortium Sodearif-Bouygues Bâtiment, Île-de-France-Meridiam, Exprimm Infrastructure, who counted on URSA Façade to insulate all the envelopes of this sports facility.

URSA Façade is a semi-rigid mineral wool panel, covered by a veil of reinforced glass with a high capacity for thermal and acoustic insulation.

The constructors of this project counted on URSA Façade to insulate all the envelopes of this sports facility, the largest velodrome in Europe.
Les Ménuires is a ski resort located between Saint Martin de Belleville and Val Thorens, in the centre of the region of Savoie (France). 48 restaurants, 39 ski lifts and 62 slopes of different heights and levels shape this sports complex that hosted the alpine skiing tests in the Winter Olympic Games and is one of the largest skiable areas in the world.

But this station also provides the opportunity to enjoy many other leisure and sports activities, such as La Piscine Les Ménuires, in its very heart. Its name does not reveal the scale of these luxurious facilities, equipped with an indoor swimming pool, relaxation pools, saunas, showers, Turkish baths, etc. The centre offers the possibility to practice various aquatic activities such as swimming, aquagym, aquatonic, etc.

The modern complex of Les Ménuires, designed by JP Chiantello, is insulated with URSA XPS, a high quality insulating material manufactured with extruded polystyrene, one of the materials with the lowest thermal conductivity in the market. It is ideal for this type of facilities, offering a myriad of applications, both for the actual construction phase, and for its application in damp areas such as swimming pools and spas.

Extruded polystyrene provides thermal insulation and is waterproof, lightweight and easy to install, allowing for the integral design of damp areas by means of modular systems. These boards enjoy high resistance to compression, rigidity and durability, guaranteeing optimal performance and maintaining their characteristics during their entire lifetime, even in conditions with high levels of humidity, condensation or under great loads.

URSA XPS remains unaltered and maintains its insulating properties over time. It is an inexpensive material, respectful with the environment (its installation can help decrease building CO₂ emissions by 30%), easy to use and install.

The aquatic luxurious facilities have been insulated with extruded polystyrene that is waterproof, lightweight and easy to install, allowing for the integral design of damp areas.
8. Non Residential Other Uses
Other Uses

And of course, much more...

Single-family and multi-family homes, hotels, offices, sports, health and educational centres, to practice sport or for leisure.

Throughout this book we have seen how URSA’s insulating materials are capable of offering the highest performance in both thermal and acoustic insulation. They are materials that act as allies for any type of project, helping to make these sustainable, to retain rational control of energy consumption, and which are at the same time, respectful towards the environment.

From the moment an architect begins drafting early sketches until the project becomes a tangible structure, with its own use and life, months and even years go by in which much work has to be done on many and varied aspects.

URSA will always be a partner in all projects that aim to create comfortable and efficient quality spaces.
On October 2011, the famous Bolshoi Theatre in Moscow reopened its doors after 6 years of restoration. The major renovation works, which started on July 2005, employed over 3,000 workers and cost over 21,000 million roubles – around 500 million euros –, have returned the Theatre back to its former imperial splendour, as it was back in 1856.

One of the main goals of the repairs was to improve the Theatre’s acoustics to bring the sound quality back to the standards that made it the best in the world back in pre-Soviet times. URSA was selected by the design team among manufacturers from all around the world to insulate the Bolshoi.

The Theatre’s original acoustics had been completely lost in the last Soviet renovation works, where reinforced concrete was used. To recover the excellent sound quality, while stripping the entire space from any traces of concrete, URSA’s URSA PUREONE was used: a white top performing mineral wool, with a high fire-resistance rating which contributes to improve the indoor air quality of those buildings where it is installed. It is a 100% recyclable material of natural origin offering important thermal and acoustic insulation advantages that help to improve buildings’ sustainability. E.g.: during a building’s life, 1 square metre unit of URSA PUREONE can save 200 times the energy used in its manufacture, transport and installation.

Covering it, wooden panels – made out of the “resonance fir tree” – were placed, identical to the original ones used in 1825 that made the theatre’s sound quality unique.

Besides restoring the main concert hall, the Bolshoi duplicated its size. An underground concert hall was built, 20.5 m deep, with capacity for 330 spectators. Owing to its proximity to the underground line, this space, called the Beethoven hall, had to be especially insulated to protect it from train vibrations.
Did you know that films as famous as Die Hard V, starring Bruce Willis, World War Z, with Brad Pitt, or In the Land of Blood and Honey, the directorial debut of Angelina Jolie, have been partially produced in Budapest (Hungary)? Hungary has become a very attractive place for large international productions, owing to the 2004 law that offers tax incentives and a 20% tax reduction for this type of activity. At present, cinematographic activity in Budapest doubles that of cities such as London, Paris or Buenos Aires. Because, in addition to fiscal appeal, Budapest possesses a unique architecture and an ideal environment for the development of great film stories.

The author of these achievements is Origo Film Studios, built only three years ago in the outskirts of the Hungarian capital. The “European Hollywood” has a total area of over 18,000 square meters, distributed in 9 large rooms that serve as filming studios, sets, production support, post-production and sound. In all film and television studios, one of the most important aspects to consider is the sound quality of all the pieces produced. For this reason, Origo Film Studios trusted URSA SF 35 to ensure the best acoustic insulation possible.

This material was used as acoustic cladding in interior partition walls and ceilings in all rooms. The different layers of insulation were sewn together with a non-combustible Teflon thread, contributing to an outstanding fire-resistance rating (A1). URSA SF 35 belongs to URSA’s GEO range of materials. It is a fireproof insulating material, which supports high loads, easy to cut and install, with a low conductivity and supplied in rolls.
In March 1986, two Concorde aircraft, one from Air France and the other from British Airways, landed at Leipzig/Halle (Germany), filled with passengers coming to the Leipzig Fair. This airport, also known as Schkeuditz Airport, is located between the cities of Leipzig (Saxony) and Halle (Saxony-Anhalt) and has traffic of almost two million passengers per year. It is, in addition, the headquarters of the operator DHL Aviation, which has meant a large increase in cargo traffic.

Leipzig/Halle airport was modernised when the city was nominated as a candidate to host the Olympic Games of 2012, which were finally awarded to London. All infrastructures were improved, parking, check-in facilities, the two runways and the loading docks. Furthermore, two rooms were built to accommodate the new snow ploughs, whose function is to keep the airport free of snow and ice in winter. To support the weight and pressure of these large machines, the ground of these buildings had to be reinforced; leading project team leaders to choose URSA XPS D N-III-L, installing it under the paving and combined with floor heating.

These extruded polystyrene panels offer great resistance and durability. Their use under foundation slabs has received the approval of the Passivhaus standard, widely used in Germany. URSA XPS D N-III-L panels have very low thermal conductivity, a high resistance to compression and an extremely low water absorption capacity owing to their non-porous, closed cell structure. In addition to its use under flooring, this material can be used as external insulation of roofs and terraces, as well as being suitable for the insulation of interior partition walls and ceilings.
Second World War Memorial in Volgograd

On the year of the 60th anniversary of the World War II armistice, the city of Volgograd (Russia) has restored one of its most important memorials to the fallen in this great military conflict.

We are talking about the Mamáyev Kurgán (Мамаев Курган, in Russian) a large commemorative monument located on the homonymous hill, where the legendary battle of Stalingrad was fought between August 1942 and February 1943. The memorial commemorates the Soviet victory in this famous battle, the bloodiest of the Second World War, which took the lives of over three million people, both military and civilians.

The outcome of the battle of Stalingrad turned the tide of the war events and was crucial to ensure Ally victory in 1945. This memorial was built between 1959 and 1967 and crowned with the large allegorical statue of “Mother Homeland”. With a height of over 105 metres, it is the largest non-religious statue in the world.

The complex includes a large museum dedicated to this famous battle, renovated this year following the designs by architect E. Vuchetich. His team chose URSA XPS to insulate the building’s roofing, where 10 cm thick boards of the company’s renowned product have been installed.

In a city with such an extreme climate, this material presents many advantages towards building thermal insulation. Zero water absorption, high resistance to compression, outstanding durability, stability and resistance to fire all add to its excellent insulating properties.

Mamáyev Kurgán is one of Volgograd’s top tourist attractions and receives close to two million visitors each year.

Close to 1,000 square metres of 100 mm thick URSA XPS have been installed to insulate the memorial’s roofing.