References

Lithuanian National Art Gallery



Uponor involvement

Uponor Classic | Vario PLUS | Quick & Easy

Lithuanian National Art Gallery

The Lithuanian National Art Gallery is a multi-functional center for the arts and culture.
The Lithuanian National Art Gallery was built in 1980 and subsequently used as a museum but at a later stage, the building's structure and engineering were no longer considered suitable for exhibiting art. This led to extensive redesign and redevelopment work.
Architects Audrius Bučas, Darius Čaplinskas and Gintaras Kuginis were commissioned with the reconstruction and renovation of the National Art Gallery, and in 2009, after 5 years of building work, it was re-opened. The architects retained the building's primary structure, added an extension and supplemented the building with new forms and materials.
The Lithuanian National Art Gallery now houses exhibitions of XX and XXI century modern and contemporary art.

Project Facts:

Location	Completion	
Vilnius, Lithuania	2009	
Building Type	**Product systems**	
Office	Radiant Heating & Cooling, Flexible Pipe Systems	
Address	**Website**	**Project Type**
Konstitucijos ave. 22,	http://www.ndg.lt/en	Renovation

The challenge

The reconstructed building was designed to be a modern reinforced concrete structure that required high-quality, long-lasting

engineering systems. Furthermore, the total area of the National Art Gallery is over 10,000 m2, with a capacity of 57,800 m3. In winter, the cost of heating this type of building is enormous.

It was therefore essential for the heating system to be extremely high-performing and economical, as well as fulfilling a number of very specific requirements:

• No heating appliances should rival with art pieces or interfere with an exhibit's artistic value
• No defacing of the building's interior
• No damage to the art on display
Aerial heating devices and convection hot and dry air streams were ruled out as they might cause expensive and lasting damage to art work.

The solution

Uponor radiant underfloor heating was chosen as the predominant heating system, providing a range of advantages:

• Radiant floor heating transmits energy evenly throughout an entire room
• The temperature of heated surfaces remains close to room temperature
• Art pieces are protected from the adverse effects of air convection
• Visitors can enjoy art exhibits in an optimized indoor climate

The low operating temperature required for radiant floor heating enables optimal efficiency of heat sources. This saves more than 20% of heating costs compared to convection heating methods, an important consideration for such a large building. Uponor also provided a tap water plumbing system that delivers fresh water safely and reliably, ensuring that the highest levels of hygiene are met at all times.

Uponor products used

For underfloor heating:
• Uponor Classic (Classic 20) floor heating system
• Vario PLUS manifolds

For tap water plumbing:
• PE-Xa pipes
• Quick & Easy fittings

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