

QUAD-LOCK[®] PROJECT PROFILE

The Evolution of Formwork

Quad-Lock Insulating Concrete Forms (ICF) have made their commercial debut in Sofia, Bulgaria. An exceptional three-storey administration building was formed using the Quad-Lock ICF system.

This project was made possible because the investor had a vision for his property, the architect had a vision for sustainability and the structural supervisor planned the project to integrate these visions.



Project Summary:

Location:

Investor:

Architectural Design:

Architect:

Structural Design:

Supervisor:

General Contractor:

Three-Storey Administration Building

Sofia, Mladost 1A, Bulgaria

Speed Ltd.

Archeos Ltd.

Andrea Momerin

Buro Draganov Ltd.

Stroitelna Konsultantska Kasha Ltd.

Quad-Lock Bulgaria Ltd.

During the design process, the architect strived to provide the maximum total square meter usage within the building footprint. To do this, the building's plan has no 90° corners. Each floor is 'twisted' in a different direction so that the cladding façade on each floor has a different angle.



The Evolution of Formwork...cont'd

The project began in the winter, the basement walls were formed with Quad-Lock ICF in November. It had snowed heavily in the days before the concrete pour and when the concrete pump truck arrived on-site it began snowing heavily again.

Two days after the pour with the average temperature being 5°C, we decided to check the hydration of the concrete. We cut the Quad-Lock panels away from the concrete and discovered that the concrete temperature was 15-20°C. Once uncovered, the concrete started to emit steam. The consolidation was excellent. The concrete's surface looked exactly like exposed concrete. After this verification, the insulation was replaced.

Quad-Lock ICFs are an excellent choice for cold-weather concreting. The expanded polystyrene (EPS) panels provide ideal conditions for the curing process. Without any additional care, the concrete can appropriately age and gain strength sheltered within the ICF.

While we were constructing the building, many people stopped to look at the structure some wondering whether the building would collapse. Quickly, they were convinced that Quad-Lock ICF is not only a durable but also extremely versatile formwork. The building envelope construction was completed in January.

In this region of Bulgaria, buildings have to withstand seismic activities. This administration building has been designed for a seismic event reaching level 9 on the Richter Scale. The only ICF system that could accommodate the heavy reinforcement required for this type of stability during seismic activity is Quad-Lock's insulating concrete forming system.

First Pour



Foam Cutaway



Complex Rebar Pattern



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