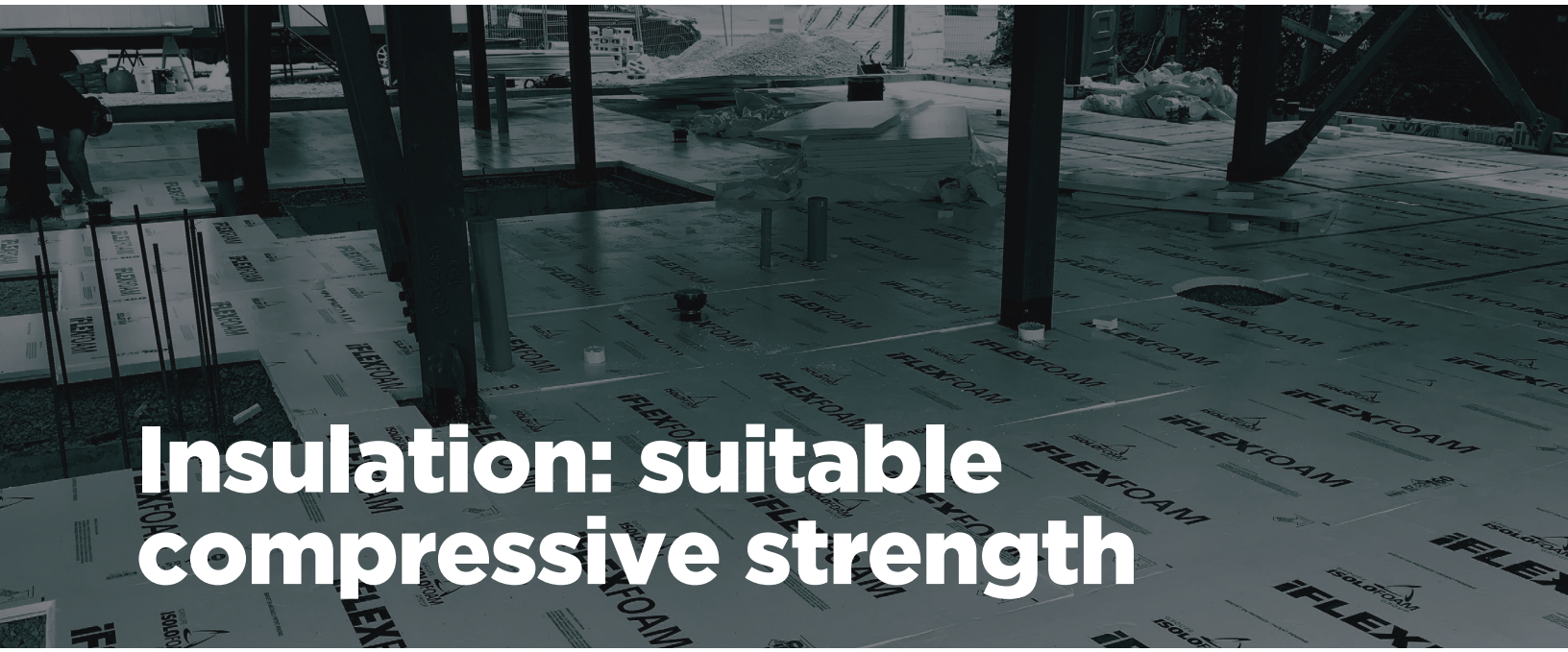

Insulation: suitable compressive strength

High-density closed-cell rigid expanded polystyrene (EPS) insulation products are perfect for applications that demand high compressive strength, including the following:

- Residential, commercial, or industrial concrete slabs
- Terraces and parking areas
- Recreation centres and skating rinks
- Roads and lightweight fills
- Exterior foundation walls

UNDENIABLE BENEFITS

Rigid expanded polystyrene insulation products can be installed both above and below ground level, which makes them highly versatile. They also come with many other major advantages.

- **High compressive strength**
- **High thermal efficiency**
- **Ease of use**
- **Cost-effective solution**

THE RIGHT PRODUCT IN THE RIGHT PLACE

ISOLOFOAM HD-XHD series building insulation products, iFLEXFOAM rigid underslab insulation, as well as GEOFOAM products for civil engineering feature all these benefits which makes them smart choices.

ISOLOFOAM SOLUTIONS

For successful projects and maximum savings, it is wise to choose insulation products that offer the appropriate compressive strength. Here are some examples of projects with typical loads and Isolofoam Group's rigid expanded polystyrene (EPS) insulation products that perfectly comply with applicable standards and exceed the requirements.

CHILDCARE CENTRE

Project specifications:
- Concrete slab: 127 mm (5 in.) thickness
- Without reinforcing bars

UNDERSLAB INSULATION

ISOLOFOAM HD160
R7.5 (RSI 1.32)

Compressive strength:
110 kPa (16 psi)

FIRE STATION[1]

Project specifications:
- Concrete slab: 200 mm (8 in.) thickness
- With reinforcing bars: 15M at 400 mm c/c both ways

UNDERSLAB INSULATION

ISOLOFOAM XHD200
R5 (RSI 0.88)

Compressive strength:
140 kPa (20 psi) considering a weight of 13,000 kg/axle (CL3-625)

ARENA[1]

Project specifications:
- Concrete slab: 150 mm (6 in.) thickness
- With reinforcing bars: 15M at 400 mm c/c both ways

UNDERSLAB INSULATION

ISOLOFOAM XHD300
OR **IFLEXFOAM 300**
Amount of insulation depending on mechanical system

Compressive strength:
210 kPa (30 psi) considering that the slab could have to support the weight of a 18,000 kg/axle vehicle (CL2-625)

FOUNDATIONS

Project specifications:
- Exterior insulation
- Foundation walls: depth of 10 ft. or less with a parking lot nearby

THE RIGHT PRODUCT

ISOLOFOAM HD160
R15 (RSI 2.64)

Compressive strength:
110 kPa (16 psi)

Load calculations were made by an independent engineering firm.

Parameters used in the calculation of the compressive strength required for the projects mentioned.

Slabs: Concrete weight: 24 kN/m³ • Concrete strength: 25 MPa • Soil capacity: 100 kPa • Insulation base layer: MG-20 type, 152 mm • Safety factor: 1.5

Foundation: Soil weight: 20 kN/m³ • Soil capacity: 100 kPa • Compaction sand: MG-112 type • Safety factor: 1.5

[1] A thicker slab, the presence of reinforcing bars, or reinforcing bars that are bigger or closer will reduce insulation's required compressive strength.