# RAZAVI HEBELEX Factories Complex

**Manufacturer of Autoclaved Aerated Concrete Blocks**

**IRAN**



Razavi Construction & Development Organization

Razavi Hebelex

## The Profile of Razavi Hebelex Factories Complex:

Through the efforts of committed and efficient managers and experts and the use of the latest Autoclaved Aerated Concrete (AAC) production technology in the world, Razavi Construction and Development Organization affiliated to Astan Razavi constructed modern factories in Tehran, Mashhad and Birjand in order to achieve its basic goals including construction and economic activities to realize and implement public utility projects, poverty alleviation, and job creation.

## A Brief Explanation on AAC:

AAC was first produced in Sweden in 1924 to achieve special construction materials with specific features such as light weight, proper thermal insulation, rigid and effective structure, easy transportation, quick and efficient operation, and cost-effectiveness. AAC production was then started in many countries with the development of technology. For instance, AAC production has increased by more than twofold in England, i.e. from 31 million cubic meters in 1995 to 71 million cubic meters in 2005. Hebelex is a commercial brand name considered for the ACC manufactured in Europe.

## Hebelex Application in Building:

- Hebelex Block

Hebelex blocks are used in the external and internal non-load-bearing walls of buildings and are optimal replacement for various types of common building materials such as bricks and clay/concrete blocks.

- Drainage gradient

Lightweight aggregate concrete is the most cost-effective and quality lightweight material that can be used for drainage gradient and building floor.

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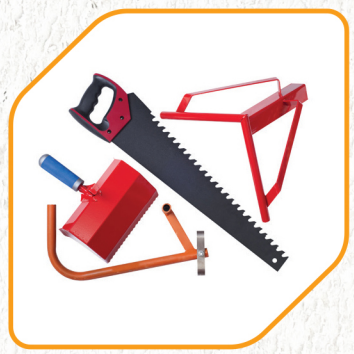
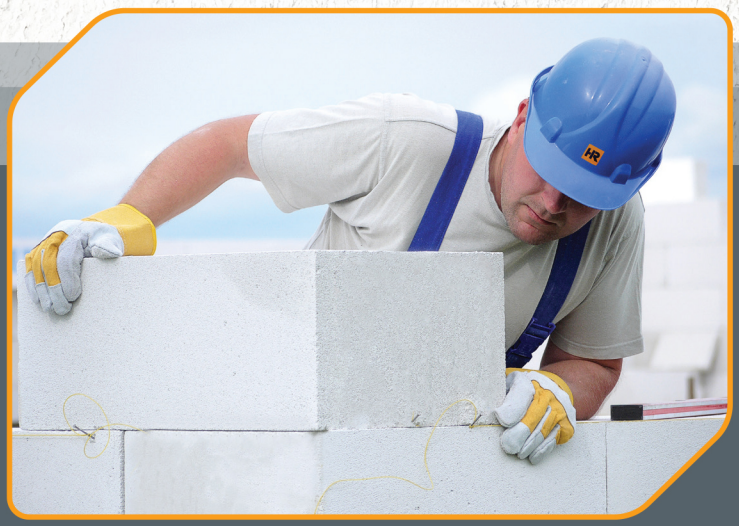
## Advantages and Technical Capabilities:

**Lightweight, but Highly Durable:** An ultra-lightweight concrete with unique porous structure (cellular) is achieved using the special method of manufacturing AAC. This structure never needs repair and renovation for a long period and it will have a very long life. AAC is highly durable despite its light weight.

- **High-speed Assembly:** As Hebelex blocks are lightweight and small, they are assembled three times faster than other wall assembly materials.
- **Ease of Assembly:** As they can be cut by a woodworking saw and assembled by nails, their mechanical and electrical assembly affairs are very quick and can be performed easily.
- **Appropriate Thermal Insulation:** The thermal insulation features of Hebelex reduce the continuous application of cooling and heating systems considerably, which has a considerable effect on reducing cost for energy consumption and its impacts on environment.
- **Fire Resistant:** Hebelex components are made of minerals. Hence, not only Hebelex concrete is inflammable, but it also offers a higher resistance to fire compared to other building materials.
- **Sound Insulation**
- **Resistance to Frost:** Having porous structure with a high percentage of closed pores, Hebelex has an appropriate resistance to frost and it has already been tested successfully in cold countries such as Sweden.





## Technical Specifications, Quality, and Standards

Razavi Hebelex Factories Complex manufactures its lightweight autoclaved concrete products according to Iranian national standards and international standards. Therefore, it obtained credible certificates issued by specialized centers for product quality assessment. All production steps are assessed by a modern QC laboratory.

## Dimensions:

| | | | | | |
|---|---|---|---|---|---|
| Length (cm) | 60 | | | | |
| Width (cm) | 8 | 10 | 12 | 15 | 20 |
| Height (cm) | 25 | | | | |

## Specific Weight and Compressive Strength

The specific weight and compressive strength of Hebelex blocks are according to the Iranian national standards as per the following table in AAC2 and AAC4 categories (as per request).

| Product Category | Range of Dry Density (kg/m2) | Compressive Strength (kg/m2) | | Maximum Mean of Shrinkage Caused by Drying (%) |
|---|---|---|---|---|
| | | Average | Minimum | |
| AAC2 | 450-550 | 25 | 20 | 0.02 |
| AAC4 | 550-650 | 50 | 40 | 0.02 |

## Thermal Conductivity and Noise Reduction

| Noise reduction of a sample with a thickness of 10 cm and at a frequency of 1000 Hz | |
|---|---|
| Noise Reduction | 40 db |
| Thermal Conductivity Coefficient | 0.08 - 0.13 (w/m.k) |

NATIONAL IRANIAN STANDARD CERTIFICATE

CERTIFICATE OF IRAN ROAD AND URBAN RESEARCH CENTER

ISO 17025

ISO 9001

BUREAU VERITAS COMPANY CERTIFICATE

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