

## 1. INTRODUCTION

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Siporex is lightweight Autoclaved Aerated Concrete (AAC) manufactured from the same components as conventional concrete: cement, sand and water in addition to aluminum powder and other additives.

The product is available as blocks with different dimensions and precast reinforced units, i.e., wall panels, lintels and floor/roof slabs forming a complete building system. A villa of one or two storeys can easily be constructed using Siporex blocks, floor and roof slabs, and lintels without the need of reinforced concrete main frame.

Industrial production of this versatile building material was started in 1929 and it has been produced and used for building construction ever since. First in Europe and now world-wide. Here in the Kingdom of Saudi Arabia, LCC Siporex Company was established in 1977 and has been producing Siporex AAC material at our plant in the Second Industrial Estate, AlKharj Road. With our continued expansion of additional manufacturing plant to sustain the growing demand, our current total production capacity has intensified to about 350,000 cubic meters of Siporex AAC products per year.



Siporex manufacturing plant in Riyadh, Saudi Arabia

## 2. CODES & STANDARDS

Various international codes and standards had been developed to provide engineers and designers with provisions for the analysis and design of AAC factory-produced blocks and reinforced panels based on various research studies and experiences on its use. These include guidelines or recommended practice addressing the materials, manufacture and structural design of AAC including design considerations such as erection and construction details incorporating the use of AAC products in conventional construction. Some of these Codes & Standards are listed below:



<b>CODE OR STANDARD</b>	<b>DESIGNATION NO.</b>	<b>DESCRIPTION</b>
<b>ACI</b>	ACI 523.4R-09	Guide for Design & Construction with Autoclaved Aerated Concrete Panels
<b>ASTM</b>	C1555-03A	Standard Practice for Autoclaved Aerated Concrete Masonry
<b>ASTM</b>	C1386-98	Standard Specification for Precast Autoclaved Aerated Concrete Wall Construction Units
<b>DEUTCH NORM</b>	DIN 4165	Autoclaved Aerated Concrete Blocks
<b>BRITISH STANDARD</b>	BS 8110 – Part 2, Section Six	Autoclaved Aerated Concrete
<b>BRITISH STANDARD</b>	BS EN 771-4:2001	Autoclaved Aerated Concrete Masonry Units
<b>BRITISH STANDARD</b>	BS EN 678:1994	Determination of the Dry Density of Autoclaved Aerated Concrete
<b>BRITISH STANDARD</b>	BS EN 679 :1994	Determination of the compressive Strength of Autoclaved Aerated Concrete
<b>BRITISH STANDARD</b>	BS EN 680: 1994	Determination of the Drying Shrinkage of Autoclaved Aerated Concrete
<b>BRITISH STANDARD</b>	BS EN 772-10:1999	Method of test for Masonry Units
<b>BRITISH STANDARD</b>	BS EN 1353:1997	Determination of Moisture Content of Autoclaved Aerated Concrete
<b>SASO</b>	SASO 1579	Precast Autoclaved Aerated Concrete
<b>SWEDISH BUILDING CODE</b>		Autoclaved Aerated Concrete Products
<b>COUNCIL OF AMERICAN BUILDING OFFICIALS</b>		Design Procedure for Siporex Roof, Floor, Wall Panels, Masonry Blocks and Lintels of Autoclaved Lightweight Cellular Concrete(Report # NER-297)
<b>RILEM</b>		Autoclaved Aerated Concrete

