

STÄRKEN

Delivering World-class Lightweight Solutions

Building Green with Starken

Contribute towards GBI Rating



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RAW MATERIALS & PRODUCTION PROCESSES

- Optimum raw material usage
 - Uses 1 m³ of raw material to produce 3 m³ of finish good.
- Requires least energy per cubic meter of finish good
- Incorporates industrial by-products such as fly ash & slag
- Environmental Management System
 - Employs ISO 14001 guidelines in the manufacturing process.
- Recycles virtually 100% of wastages
- Green energy resources
 - Uses 20% green biomass energy to operate the autoclave curing chamber.

PRODUCT ATTRIBUTES

- Green Building Material
 - Advancing towards accreditations from local and international certification bodies.
- Non-toxic
 - Releases no toxic gases when in use.
- Excellent Heat Insulation Property (R value)
 - About 3 times better than clay brick of equivalent thickness.
- Superb Fire Resistance
 - At least 2 times better than conventional brick wall.
- Sound Insulation
 - Provide sufficient sound insulation essential for comfortable indoor noise level.
- Recyclable
 - Can be fully recycled at its end of service life.
- Easily Available (Regional Material)
 - Supply is always available within Malaysia.
- Lightweight
 - Significant reduction in fuel consumption in delivering the goods, thus reducing the CO₂ gas emission.

GREEN BUILDING SYSTEMS

- Best heat insulation property in solid masonry construction systems
 - Resist heat inflow up to 3 times better than conventional brick wall.
- Comply with Industrial Building System (IBS) criteria
 - Contribute to IBS score.
- QLASSIC
 - Quality surface finish meeting QLASSIC requirement.
- Environmental Friendly (Align to 3R concept)
 - **Reduce** – Products are dimensioned to suit specific use, thus reducing wastages at site.
 - **Reuse** – Wastages can be used as landfill without fear of detrimental impact to environment.
 - **Recycle** – Wastages & can be recycled and turned into other types of building materials.
- Durability
 - Proven serviceability life in excess of 50 years in Europe & over 20 years in Malaysia.

Starken Contribution to GBI Rating

GBI Assessment Criteria	How Starken AAC Products Facilitate to GBI Score?
Energy Efficiency (EE)	<p>Excellent thermal insulation property of external walls built using Starken AAC products helps designers to achieve the desired Overall Thermal Transmission Value (OTTV) of a building. Using AAC block walls as part of building envelope significantly reduces heat in-flow (heat loss) between outdoor and indoor environment.</p> <p>Example of External Walls:</p> <p>a) 140 mm thick Starken AAC Block Wall, Thermal Insulation = 0.924 m².K/W b) 150 mm thick Clay Brick Wall, Thermal Insulation = 0.363 m².K/W</p> <p>Conclusion – Starken AAC Block Wall will insulate a building envelope more than 3 times better than Clay Brick Wall.</p>
Indoor Environment Quality (EQ)	<ol style="list-style-type: none"> 1. Starken AAC products are manufactured from non-toxic ingredient such as cement, sand, lime and aluminium powder (aerating agent). No formaldehyde added in making these products. 2. Starken AAC products have very good sound insulation values. Sound insulation of a wall system is important for achieving the desired indoor noise level. 100 mm & 200 mm thick block wall systems have the Sound Transmission Class of 41 dB and 49 dB respectively. If higher STC value is required, cavity wall can be constructed using double-leaf wall system.
Sustainable Site Planning & Management (SM)	<ol style="list-style-type: none"> 1. Walls constructed with Starken AAC products comply with QCLASSIC requirement for wall finish quality (maximum 3 mm deflection over 1.2 m at any orientation). 2. Starken AAC wall systems comply with CIDB's IBS classification/ criteria with IBS factors of 0.5 and 1 for blocks and panels respectively.
Materials & Resources (MR)	Starken AAC products are MADE IN MALAYSIA using virtually 100% local content.
Innovation (IN)	Starken AAC wall systems comply with CIDB's IBS classification/ criteria with IBS factors of 0.5 and 1 for blocks and panels respectively.
Building & Resources (BDR)*	<ol style="list-style-type: none"> 1. Using Starken AAC products resulted in buildings with low environmental impact since they (AAC) have recycle content. 2. Starken AAC products are manufactured within 500 km from the project sites, thus minimizing the environmental impact due to transportation. 3. Walls constructed with Starken AAC products will comply with the QCLASSIC requirement for wall finish quality (max. 3 mm deflection over 1.2 m at any orientation). 4. Assist in achieving a maximum of 20 IBS points.

*Applicable for Township Tool only.

Important Points About GBI

1. Buildings or Townships are rated based on the number of points scored, Platinum 86+, Gold 76 to 85, Silver 66 to 75 and Certified 50 to 65.
2. Generally, no products can 'directly' contribute to the GBI score. Products are normally combined with other building materials and taken as a system (or entity) and evaluated based on the GBI Assessment Criteria, where specific maximum points can be achieved.
3. GBI is recognised and supported by several town councils namely DBKL, MBPJ & MPPP. Increase in Plot Ratio (DBKL) and reduction in Planning Fees (MPPP) are among incentives given to development in compliance with GBI. *

*Source: GBI website.

Contribute Towards GBI Rating

	Energy Efficiency	Indoor Environment Quality (EQ)	Sustainable Site Planning & Management (SM)	Materials & Resources	Innovation (IN)	Building & Resources (BDR)
Residential New Construction (RNC)	EE1 (01) EE2 (12)	EQ3 (01) EQ6 (01)	SM5 (01) SM7 (02)	MR2 (02) MR3 (02)	-	-
Non-residential New Construction (NRNC)	EE1 (03) EE5 (15)	EQ13 (01)	SM6 (01)	MR2 (02) MR3 (01)	-	-
Non-residential Existing Building (NREB)	EE1 (03) EE5 (13)	EQ13 (01)	-	MR2 (01)	IN1 (01)	-
NRNC: Data Centre	EE1 (03) EE5 (15)	-	SM6 (01)	MR2 (02) MR3 (01)	-	-
NREB: Data Centre	EE1 (03) EE5 (13)	EQ13 (01)	-	MR2 (01)	-	-
Industrial New Construction (INC)	EE1 (03) EE5 (10)	EQ14 (01)	SM7 (01)	MR2 (02) MR3 (01)	-	-
Industrial Existing Building (IEB)	EE1 (03) EE5 (10)	EQ14 (01)	-	MR2 (01)	-	-
NRNC: Retail	EE1 (03) EE5 (15)	EQ13 (01)	SM6 (01)	MR2 (02) MR3 (01)	-	-
NREB: Retail	EE1 (03) EE5 (15)	EQ13 (01)	-	MR2 (01)	IN1 (01)	-
Township	-	-	-	-	-	BDR2 (01) BDR3 (01) BDR4 (01) BDR7 (02)

1. The number in the parenthesis indicate the maximum achievable score under the stated GBI rating tools.
2. The use of Starken products will contribute positively towards achieving the indicated GBI scores.
3. The above information serves as a guide only and Starken AAC Sdn. Bhd. shall not be liable for any claim resulting from its use.
4. Always check on the latest GBI rating tools and assessment criteria from the respective authority.

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