

PREQUALIFICATION

"WHEN WE BUILD,
LET US THINK THAT WE BUILD FOREVER."

JOHN RUSKIN



www.acfasa.net



A strong, Moisture Resistant, and thermally insulated building shield ensures the buildings' sustainability over time.

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	10:11	External wall Specifications
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ACFA building Solutions is dedicated to sustainable development, offering Local and global consumers series of new age building products and highly Innovative solution which satisfy demand. And create the enterprise win-win situation, presenting a unique formula for an affordable luxury.

ACFA

Preserving Nature, Leading Innovation



“even if we`ll never be able to change the world,
Our work should help
making our living space
a better place
for our existence”

COMPANY INTRODUCTION

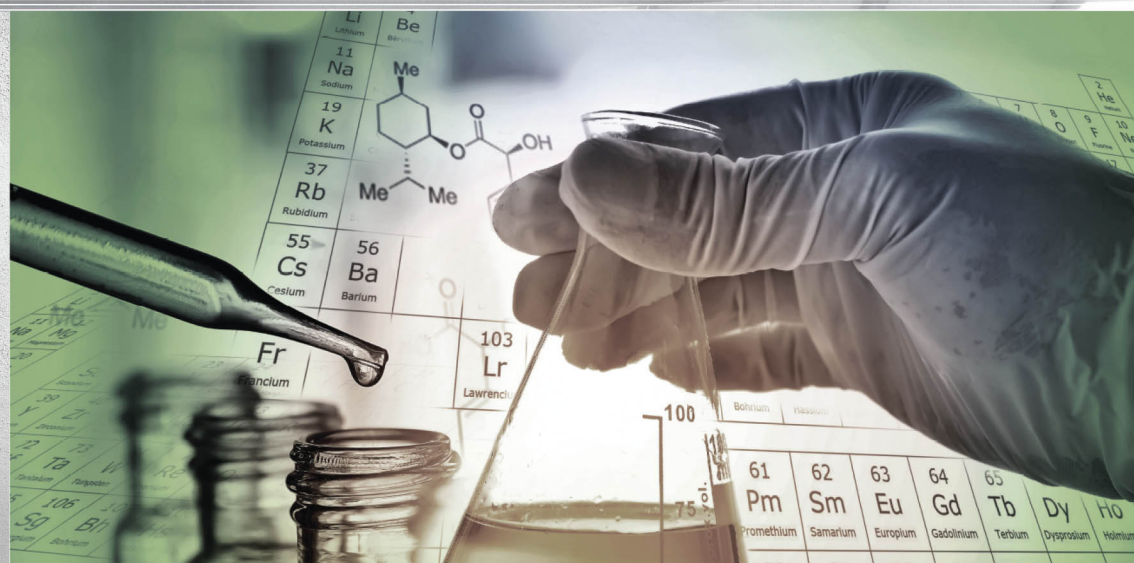
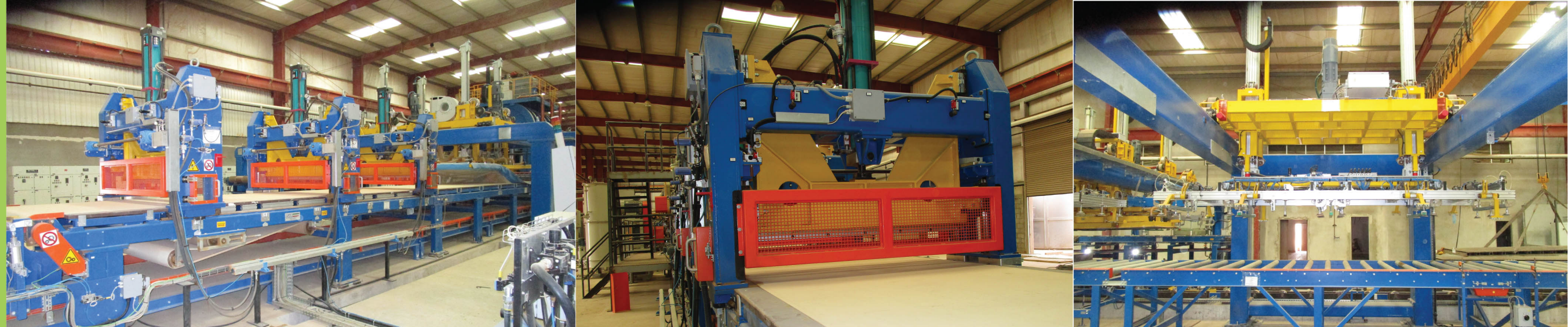
ACFA started its production activities in a most modern-ized plant located in its ultra-modern Industrial facility in Saudi Arabia “Central Province”. ACFA building solutions manufactures a wide range of fiber cement boards for Interior and Exterior applications. ACFA is geared towards providing the optimum, highest quality products to its Local customers as well as regional and International markets.

ACFA Building is a customer-driven organization. With a firm belief that the customer is the most important member of the organization. ACFA set its goals and strategies to achieve full customer satisfaction. ACFA believes that having a clear understanding of a customer's needs and wants is the first step to success.

ACFA's extensive Research on Saudi and Arabic lifestyles, and its reflection on customers' tastes, has given them deep insight into ideas enabling us to create a premium range of cementitious products.

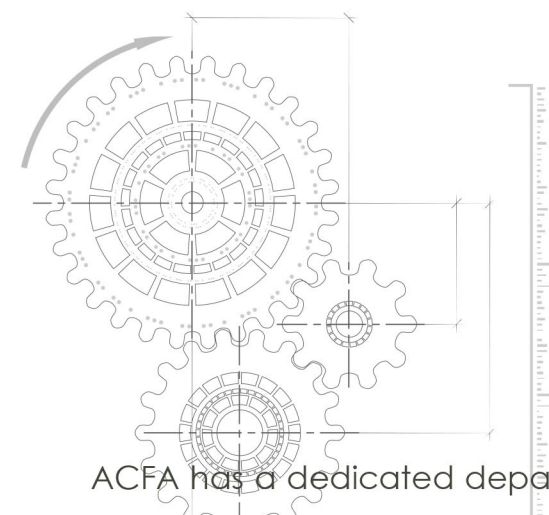


think big
teamwork
new
risk inspiring
creative business
communication solution
key innovate
ideas concept
brainstorm plan
strategy success
global process
out of the box
reward
leadership
efficiency
workflow
information marketing
organization network
research analysis
advertising positive
development
goals



MANUFACTURING

The hallmark of ACFA building solutions is simply its State-of-the-art machinery, and manufacturing know-how both were imported from Europe. ACFA is equipped with a plant capacity of around 60000 tons per year and can able to cater the requirement of Saudi and other export requirements whenever specific requirements come.



ACFA has a dedicated department for decorative products, production facilities, and machinery and is well-equipped to cater to products that guarantee to conform to local and international standards.

ACFA building solutions keenly focus on the continuous development process. It believes that the right product for the right application is a must to reach the desired solution. ACFA has got the support of expert consultants in the field of fiber cement manufacturing who helps them in achieving the best process and products.





Sustainable



Customer centric



Futuristic



Affordable



DYNAMIC

Marketing and Sales team

ACFA building solutions dynamic Marketing and Sales team constantly endeavors to attain an elevated level of customer satisfaction through transparent, committed & quality services. ACFA has got a wide range of distribution networks including Institutional and Government Projects.

ACFA boards are the perfect choice for building board applications such as wall cladding, wall partitioning, decorative walling, Ceiling, and Floor applications. ACFA boards are reliable and suits for any building type, residential, industrial, and commercial as well as schools and hospitals., especially where speedy construction, cleanliness, and hygiene are of high importance.



MANAGEMENT



ACFA is a %100 Saudi-owned company. ACFA in its ultra-modern Industrial facility in Saudi Arabia's "Central Province" Manufactures a wide range of fiber cement boards for Interior and Exterior applications. ACFA is geared towards providing the optimum, highest quality product in addition to dynamic sales & marketing program with the objectives of delivering accountable building solutions to the Saudi aspiring construction scene.

01

RAW MATERIAL PREPARATION

From the storage Silo's the various raw materials are drawn as per the furnish through weighing arrangement and sent to RMP mixers for the final preparation of slurry through Automation Process. This has been done in batch wise for feeding for the continuous production through Agitator and Control mixer.

02

SHEETING MACHINE

In this section the slurry is drawn continuously from the control mixer and fed in to 6/5 Vats and through sieve cylinders the water is filtered and monolayer with uniform thickness is transferred to endless felt, this layer yet transferred into the forming drum layer by layer and finally after getting the required thickness gets transfer to the first conveyor in a sheet form. Normally the thickness varies from 4mm to 20mm.

03

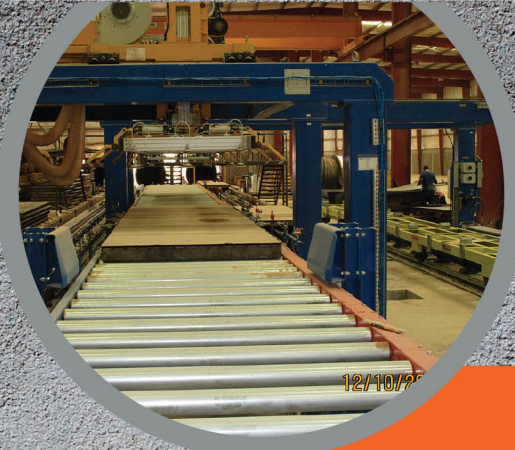
Stacking

From the 1st conveyor the sheet get transferred to the second conveyor and while transferring the extra side portions are trimmed of to get the required width of the board In the starting of the second conveyor the boards are cut to the required length by the guillotine and transferred under the stacker pick up head, the stacker picks each board and stacks over the base plate with intermediate SS Templates (on each board) and finally a complete stack was piled under the stacker.

04

Hydraulic Press

The piled stack with base plate is moved under hydraulic press and entire stack is pressed by the hydraulic press with required hydraulic pressure and kept for sufficient time so that the extra moisture (Water) is removed and smooth top and bottom surface obtained.



Separator after Autoclave.

The Autoclaved boards with the same stack, Pallets and spacers are pulled back from the autoclaves and Placed under the separator so that the cured boards are separated and the spacer and pallets are separated accordingly, the separated spacer and pallet will go back to the de stacker for the further processing of the boards which will be sent for the Autoclaves. the separated cured board of various sizes are sent to the finishing section for the further process of width and length trimming and for sanding operations.v

08

De Stacker

Once the Pre-curing is over the same stack is brought under the De stacker machine and SS templates and sheets are separated so that the templates after cleaning and oiling goes back to the stacker machine for piling of the sheets with SS templates for continuous production. the Pre-cured boards are stacked on a Pallet with intermediate SS Spacers and formed into a stack which is ready for sending inside the Autoclave for the further reducing moisture and cure

06

Boiler & Autoclaves

The stacks of pre matured boards on Pallet with intermediate SS Spacers were pushed inside the Autoclave automatically for further reducing the moisture and to obtain the dimensional stability. This process of cooking the sheet inside the Autoclave is carried out with the help of saturated steam pressure and temperature for a pre-determined time.

07

Pre curing line

Once the hydraulic pressing cycle is completed the same stack with the baseplate is transferred to the Pre curing line and kept in the pre curing line for about 10-8 hours for the pre maturing of the board.

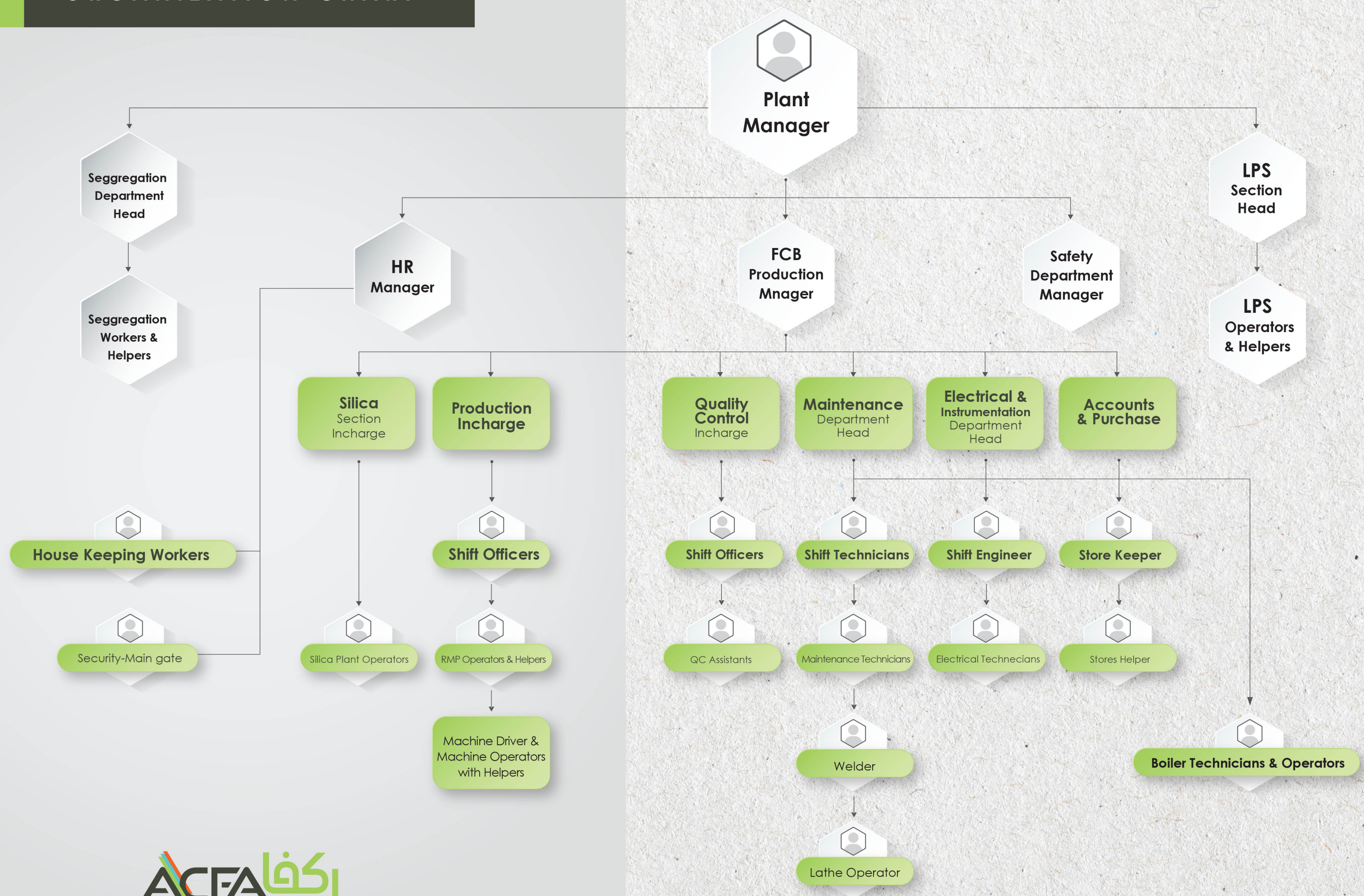
05

PACKAGING / INVENTORY / STOCK YARD

From this finishing it goes for packing and labelling section for getting packed and labelled, From the packing section it goes to stockroom inventory yard for onward dispatch as per the sales requirement, all this process from the RMF up to the packing section all done fully Automatic and Semi-Automatic in a controlled manner with proper in house quality inspection at various stages.

09

ORGANIZATION CHART





OUR VISION

Contributing continuously to the growth of the Saudi economy, in accordance to Kingdom`s 2030 vision.

To innovatively utilize the kingdom`s local rich resources and raw materials, reducing the dependability on imported products and cutting down its related logistic costs.

To be a major player in the manufacturing and Sales of Fiber Cement products with Unique attributes, characterized by superior quality products and services excellence in practices & value system that nurture human potential.

To maintain and develop a respectable position among Fiber Cement market leaders in the MENA (the Middle East & North Africa) Region.

Providing value to the stakeholders in our business by maintaining exacting standards of quality as a top priority.

BRAND VALUES



Sustainable

Our business is about building better communities that have a lower impact on our environment and are built to last. We have formalized our commitment to sustainability with a strategy prioritizing Zero Harm.



Customer centric

All our activities and efforts focused on positioning the Client at the heart of our concern by prioritizing the client's needs and aspirations.



Futuristic

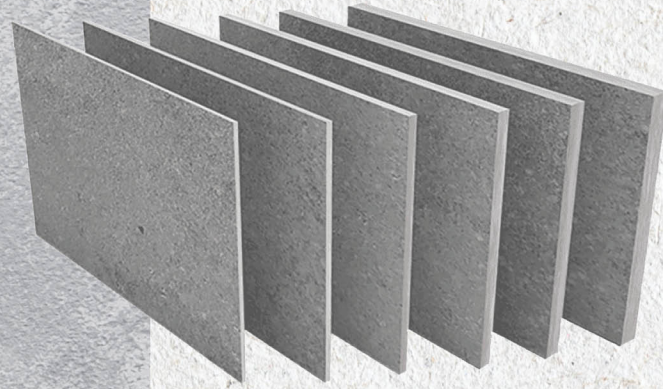
Developing Innovative Building solutions is our main goal, driven by our passion for continuous Research & Development.



Accountable

Since its inception, ACFA Building Solutions was recognized as an accountable organization that offers reliable building solutions that meet specific market demands.

Our Products



intertek



ASTM C1186 - EN 12467

ACFABOARD®

ACFA Board® is the perfect choice for Interior board applications such as Ceilings, partitions, & Wall Lining. ACFA board is reliable & suits any building type, especially where speedy construction, cleanliness, and hygiene are the priority. ACFA Boards are completely moisture-resistant, termite, and fire-resistant, and accept a variety of finishing choices.

ACFAHD®

ACFA HD® Board is unmatched weather-resistant, best suited for claddings and facades, which are easy to install and extend design flexibility. Apart from being cost-effective and low-maintenance, they also give an effortless joint-less panel design with a render finish or a classy-modern look with a uniform gap/groove.

ACFAPLUS®

ACFA PLUS® is a durable, Water-Resistant Specialist Board used as a backer for floors, walls, countertops, tubs, and shower areas. If the waterproofing fails, you can rest assured that ACFA plus won't. It has incredible hanging power for tiles, hooks, and fixings. It can hold tiles with a maximum weight of 100 kg/m²

ACFA اكفا

رؤية VISION 2030

المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

وزارة التجارة
Ministry of Commerce

شركة أكفا الصناعية للصناعة

رمزك التجاري QR Code

من خلاله يمكنك التحقق المباشر من المعلومات:

السجل التجاري

شهادة السعودة

شهادة الزكاة

رخصة البلدية

برنامج نطاقات

الغرفة التجارية

1010350649: السجل التجاري

www.mc.gov.sa

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رمزك التجاري QR Code

من خلاله يمكنك التحقق المباشر من المعلومات:

٧٠٠١٧٨٢١١

الرقم الموحد :

١٠١٣٥٠٦٤٩

رقم المنشأة :

١٤٣٣/١١/٠٨ هـ

التاريخ :

وزارة التجارة
Ministry of Commerce

شهادة تسجيل الشركة
Company Registration Certificate

الاسم التجاري للشركة : شركة أكفا الصناعية للصناعة

نوعها : ذات مسؤولية محدودة

جنسيتها : سعودي

تبدأ من : ١٤٣٣/١١/٠٨ هـ

تنتهي في : ١٤٥٨/١١/٠٨ هـ

مدة الشركة : ٢٥ سنة

مركزها الرئيسي : الرياض العليا

هاتف : ٤٦٥٣٠٣٥

الرمز البريدي : ١١٤٢٤

ص. ب : ١٤٣٦٤

النشاط : للاطلاع على بيانات الأنشطة الرجاء مسح الرمز التجاري

رأس المال : ١٨٠٠٠٠٠٠٠ ريال سعودي

المديرون : 1 عبدالعزيز حمد ابراهيم السلوم

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سلطات المدير/المديرون : حسب ما نص عليه عقد الشركة

يشهد مكتب السجل التجاري بمدينة : الرياض

بأنه تم تسجيل الشركة المذكورة أعلاه بمدينة : الرياض

وتنتهي صلاحية الشهادات في : ١٤٤٩/٠٦/٠٢ هـ

بموجب الإيصال رقم : ١٠٧٧٣٢٧٩٤

وتاريخ : ١٤٤٣/٠٩/١٨ هـ

QR Code

To Verify The Information Of This Certificate Visit <http://qr.mc.gov.sa> or
+966 11 294 4444 | Riyadh 11162 Kingdom Of Saudi Arabia | المملكة العربية السعودية | www.mc.gov.sa | MCGovSA @ ٢ ١ ٥ ٤ ٣ ٢ ١ ٠ ٧ ١ ٠ ٨ ١ ٤ ٣ ٣



رؤية 2030
المملكة العربية السعودية
Kingdom of Saudi Arabia



وزارة التجارة
Ministry of Commerce

السادة/ شركة أكفا الصناعية للصناعة

نهنكم بدخول عالم الأعمال التجارية وإصدار سجلكم التجاري، ونتطلع أن يساهم هذا السجل في تحقيق تطلعاتكم، وأن يكتب الله لكم التوفيق والنجاح في عملكم التجاري وأن تكون شريكاً في تعزيز اقتصاد المملكة العربية السعودية.

يسرنا إبلاغكم بأن رقم منشآتكم الموحد هو ٧٠٠١٧٨٢٤١١ وقد تم ربطه بالخدمات الحكومية التي ستحتاجها مستقبلاً. وهي على النحو التالي:

الرقم:	رقم سجلكم التجاري للمنشأة	
١٠١٠٣٥٠٦٤٩	رقم منشآتكم لدى وزارة الموارد البشرية والتنمية الاجتماعية	
٣٦١٩٨٠	تم تسجيل منشآتكم مجاناً لمدة سنة في خدمة واصل التجاري	
١٣٤٨٥٠٧٣٨	رقم منشآتكم لدى هيئة الزكاة والضريبة والجمارك	
٣٠٠٩٨٥١٧٢٤	رقم منشآتكم لدى المؤسسة العامة للتأمينات الاجتماعية	
تحت الإجراء	رقم منشآتكم لدى الغرفة التجارية.	
٢٨٩٥٠٦	رقم رخصة "بلدية" فورية (في حال اختياركم)	



يُتيح تطبيق "نوافذ منشآت" العديد من الخدمات الممكنة لك في عالم الأعمال و منها الحصول على الإرشاد و الاستشارات ، تطبيق "نوافذ منشآت" بوابة دخولك إلى عالم الأعمال، <https://www.monshaat.gov.sa/nawafth>



منشآت
monshaat

ويمكنك فتح حساب بنكي دون الحاجة إلى أي أختام لمنشأتك

كما جمعنا لك كافة الانظمة واللوائح بلغة بسيطة في دليل التاجر لتمارس عملك التجاري بسهولة mc.gov.sa/trader/guide

920000667 | الرياض 11162

Kingdom of Saudi Arabia | المملكة العربية السعودية

MCgovSA

www.mc.gov.sa



تاريخ الترخيص : ١٤٣٩/٠٢/٢٥ هـ
الرقم المميز : ٣٠٠٩٨٥١٧٢٤



المملكة العربية السعودية
الهيئة العامة للزكاة والدخل
GENERAL AUTHORITY OF ZAKAT & TAX
(١٨٥)

شهادة CERTIFICATE

شهادة تسجيل في ضريبة القيمة المضافة VAT registration certificate

تشهد الهيئة العامة للزكاة والدخل بأن المكلف : شركة أكفا الصناعية للصناعة
مسجل في ضريبة القيمة المضافة بتاريخ : ١٤٣٩/٠٢/٢٥ هـ ، وتحمل الرقم الضريبي : ٣٠٠٩٨٥١٧٢٤٠٠٠٣

عنوان المركز الرئيسي :
المدينة : الحي :
صندوق البريد : الرمز البريدي :
الهاتف : ٠٠٩٦٦٥٥٩٤٠٠٢٢٤

الهيئة العامة للزكاة والدخل



هذه الوثيقة مرسلة من النظام الآلي ولا تحتاج إلى توقيع

مصرف الإنماء
alinma bank

شهادة بيانات عميل Customer information certificate

بناءً على طلب عميلنا :
As requested by our customer :

نفيذكم ببيانات العميل ومعلومات حسابه لدينا
Please find the below customer information

اسم العميل	شركة أكفا الصناعية للصناعة	Customer name
رقم الهوية	1010350649	Customer ID
رقم الحساب	68201034554000	The Account number
رقم الحساب البنك الدولي	SWIFT CODE: INMASARI	IBAN number
رقم الحساب البنك الدولي	SA8605000068201034554000	

صدرت هذه الشهادة بناءً على طلب عميلنا
المذكور أعلاه بدون أدنى مسؤولية على
البنك
This certificate is issued upon the customers' request
without any responsibility or obligation to the bank.
FIXED

Authorize signatories

المفوضون بالتوقيع



Head office الإدارة العامة
Tel +966 (1) 218 5555 هاتف
Fax +966 (1) 218 5000 فاكس
P.O. BOX 66674 ص.ب.
Riyadh 11586 الرياض
KSA المملكة العربية السعودية



شهادة اشتراك
Membership Certificate

Chamber of Commerce
Riyadh Chamber

رقم العضوية الموحد : 289506

تاريخ الاصدار: 2012/09/24

درجة العضوية : الاولى

شاهد الغرفة التجارية الصناعية بالرياض بأن

شركة اكفاء الصناعية للصناعة

مقيدة بالسجل التجاري / الترخيص رقم : 1010350649

ينتهي سريان هذه الشهادة في 2027/11/01

الخدمات الإلكترونية
E-SERVICES

920004565

يُلم التحقق من الوثيقة عبر الرابط <https://mybusiness.chamber.sa> ، أو تطبيق (سند) للأجهزة المحمولة أو الرقم الموحد جون أدني مسؤولية على الغرفة عن محتوى الوثيقة.

تعد هذه الورقة من الوثائق الإلكترونية لغرفة الرياض، ويمنع تعديلها أول محاولة العبث بها ونصبح لاعبة حال محاولة تعديلها وتعرض صاحبها للملاحقة القانونية.



تفاصيل تسجيل العنوان الوطني

National Address Registration

Account Information

Application No : 134850738

Service No : 134850738

Customer Account : 844479553

معلومات الحساب

رقم الطلب ، ١٣٤٨٥٠٧٣٨

رقم حساب الخدمة ، ١٣٤٨٥٠٧٣٨

رقم حساب العميل ، ٨٤٤٤٧٩٥٥٣

Address Details:

شركة اكفاء الصناعية للصناعة
6186 Ad Dira - Al Yasmeen Dist.
Unit No 16
Riyadh 13322 - 2853
Kingdom of Saudi Arabia

تفاصيل العنوان:

شركة اكفاء الصناعية للصناعة
٦١٨٦ الدرع - حي الياسمين
وحدة رقم ١٦
الرياض ١٣٣٢٢ - ٢٨٥٣
المملكة العربية السعودية

Address Details		تفاصيل العنوان
Building No	6186	رقم المبنى
Street Name	الدرع Ad Dira	اسم الشارع
District Name	حي الياسمين Al Yasmeen Dist	اسم الحي
City Name	الرياض Riyadh	اسم المدينة
Zip Code	13322	الرمز البريدي
Additional No	2853	الرقم الإضافي
Unit No	16	وحدة رقم



2400X1200mm

(Metric)

2440X1220mm

(Imperial)

ACFABOARD®



مقاوم للرطوبة
Moisture Resistant



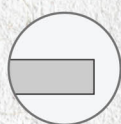
مقاوم للحريق
Fire Resistant



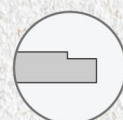
مقاوم للحشرات
Termite Resistant



صديق للبيئة
Eco Friendly



Square Edges



Tapered Edges

TE

SE

The perfect choice for interior board applications

ACFA Board® is the perfect choice for Interior applications such as Partitioning, Decorative walls, and ceiling applications. ACFA board is reliable & suits any building type: residential, commercial, and industrial buildings, especially where speedy construction, cleanliness, and hygiene are the priority. ACFA Boards are synonymous with hassle-free installation. It is Manufactured using revolutionary High-Pressure Steam Curing Technology. Accordingly, these boards are perfectly resistant to moisture, termite, and fire and accept varied finishing choices.

Standard Thicknesses:

6 mm | 9mm | 12mm | 15mm | 18mm

ACFA كفا

ACFABOARD

SEGMENT				DRYWALLS			INFILL WALL		LINING			FLOORING	
	Exposed Grid - Designer	Concealed Frame - Groove/ Gap-Plain	Concealed Frame- jointless - Plain & Tapered	Exposed Frame - Insert - Plain/ Designer	Concealed Frame - Groove/ Gap - Plain/ Designer	Concealed Frame - jointless - Plain & Tapered	Concealed Frame - Groove/ Gap - Plain/ Designer	Concealed Frame - jointless - Plain & Recessed	DRY AREA- Concealed Frame- Groove/ Gap- Plain/ Designer	DRY AREA - Concealed Frame - jointless - Plain & Tapered	WET AREA - Concealed Frame - Plain	MEZZANINE Light Steel Frame - Single/ Double Layer- Plain	Intermediate- Light Steel Frame - Single/ Over Decking- Plain
RESIDENTIAL	●	●				●	●	●	●	●	●		●
INDUSTRIAL	●	●		●	●							●	●
WAREHOUSING	●	●		●	●		●	●				●	●
HEALTH CARE			●			●	●	●					
RETAIL /OFFICE	●	●	●	●	●	●	●	●	●	●	●	●	●
EDUCATION	●	●	●	●	●	●	●	●	●	●	●	●	●
HOSPITALITY	●	●	●		●	●	●	●	●	●	●	●	●
LEISURE & ENTERTAINMENT	●	●			●				●	●	●	●	●

ACFA Board® combined with different frameworks like timber, steel, or aluminum, offers unique advanced drywall constructions, which help leverage maximum space utilization and substantial time saving.

ACFA boards offer Architects major flexibility in design and thermal and acoustic insulation, besides being maintenance-free & highly durable. ACFA Fiber Cement boards come with square edges to provide a gape/ groove and can also be tapered, with special LKS coating for a joint-less finish.

These Interior solutions allow you to do the finishes with paints, veneers, wallpapers, etc. In other words, ACFA boards enable you to create a Ceiling, wall, or floor in a premium finish of your choice.

Finishing options

Paint/Polish Texture Coating Veneer lamination Wall paper

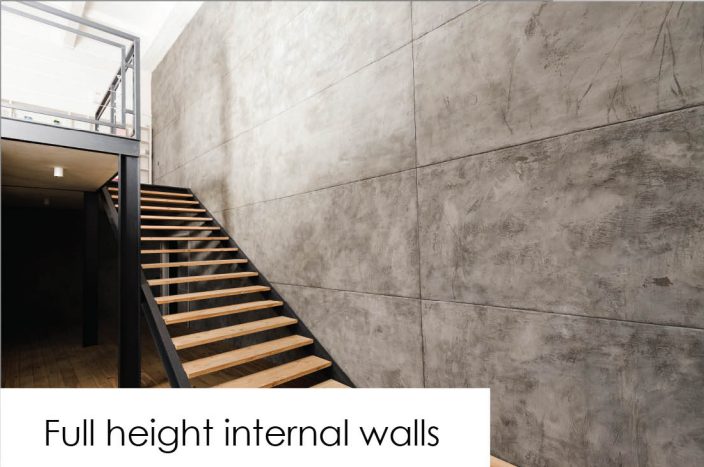




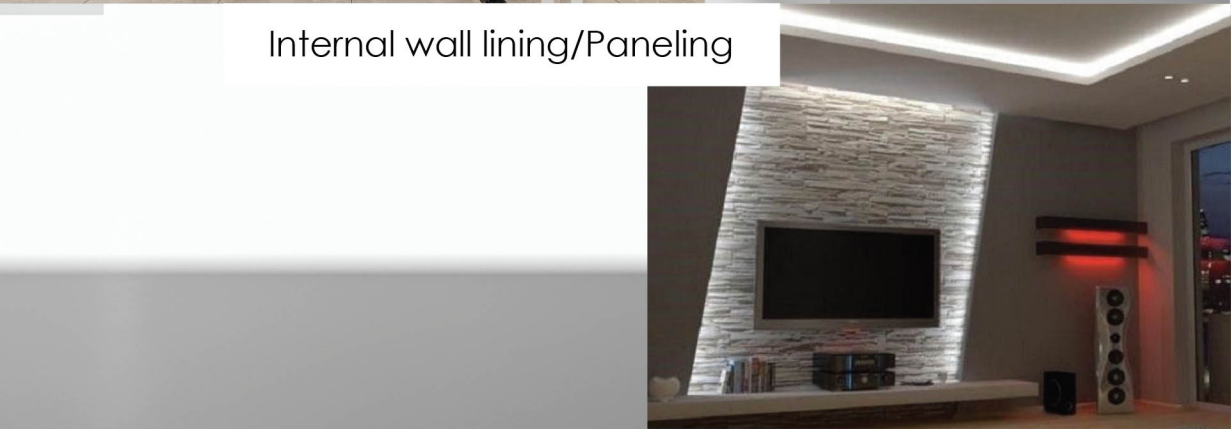
Half height Internal walls



Internal Ceiling



Full height internal walls



Internal wall lining/Paneling

TECHNICAL SPECIFICATION

AS PER ASTM C1186

Sl. No.	Product Characteristics	Requirement	Performance
Dimensional Tolerances			
1	Thickness (mm) Up to 5 mm 5 mm to 10 mm 10 mm to 16 mm 16 mm to 20 mm	± 0.5 mm ±1.0 mm ± 1.3 mm ±1.5 mm	Within Standard
2	Length (mm)	±0.5% ± 6 mm (max)	Within Standard
3	Width (mm)	±0.5% ±6 mm (max)	Within Standard
4	Straightness of edges - mm	2.6 mm / m	1
5	Squareness of edges - mm	2.6 mm/m	2
Physical Properties :			
6	Category as per Standard	Type A	Type A
7	Grade as per MOR	Grade - I	Grade - I
8	MOR at EMC in (MPa) Minimum	4	> 7
9	Density, Kg/m3	1300±5%	1300±50kg
10	Water absorption (48 hrs. test) %	≤33%	30%
11	Moisture Movement (mm/m)	< 0.05	0.04
12	Freeze-Thaw Performance -Observation Strength Retention	No deleterious effect ≥50 Cycles	Internal report
13	Heat / Rain test -Observation Structural Alternation	No Visible Cracks ≥50 Cycles	Internal report
14	Warm Water Test -Observation Strength Retention	No deleterious effect ≥50 Cycles	Internal report
15	Surface Burning Characteristics As per ASTM E 84-21a (9&18) mm Board	Flame spread Index = 0 Smoke developed Index ≤5	Passes the requirement

Light yet Tough, for External Board Applications

2400X1200mm
(Metric)

2440X1220mm
(Imperial)

At ACFA, everything we do stems from an eco-friendly, cost-effective, and advanced construction approach. **ACFA HD®** compressed Fiber Cement Boards challenge the conventional practice of Brick / Block based wet construction. The unique compression technology at the green stage gives it superior strength even in wet conditions, ensuring a higher strength-to-weight ratio. ACFA High-Density Boards are inherently weather resistant and offer superior impact resistance, especially under exposure to high wind reversal stress making them ideal for mid to High rise. In addition to their excellent durability, they come pre-finished and are easier to install, thus reducing the construction time. **ACFA HD®** boards are unique in their category, blending with a wide range of surface finishes like laminates, ceramic, vitreous tiles, acrylic textures, and renders.

ACFA HD®

Standard Thicknesses

6 mm | 9 mm | 12 mm | 15 mm



مقاوم للرطوبة
Moisture Resistant



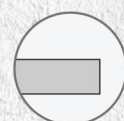
مقاوم للحريق
Fire Resistant



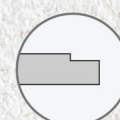
مقاوم للصدمات
Impact Resistant



صديق للبيئة
Eco Friendly



Square Edges



Tapered Edges

TE

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ACFA اكفا

ACFA HD® High-Density Boards sustain prolonged exposure to the sun, rain, and UV. Backed up with High impact resistance and dimensional stability, these boards help create internal and external load-bearing walls and floors that are stronger and long-lasting for a vast spectrum of commercial, industrial, and residential projects.

Due to its unmatched weather-resistant, ACFA HD Board is a perfect suit for claddings and facades, not just ordinary facade solutions but masterpieces. Apart from being cost-effective and low-maintenance, they also give an effortless joint-less panel design with render finish or a classy-modern look with uniform gap/groove & are ready-to-use and flexible.

The ACFA HD Board offers lightweight structural flooring substrates for various finishes over wood studs or steel floor joists and can also be used as fire rated access floor for data centers. Durable, moisture-resistant substitute for most engineered timber and plywood substrates and a reliable alternative to concrete.

Thanks to the superior load-bearing Properties of ACFA (HD) boards, they can be covered with vinyl, tiles, marble, slate, or granite. The HD Floor Boards are a reliable substrate for mezzanine floors and lofts. They are ideal for hospitality, commercial, health care, and residential properties.



SEGMENT	CEILING		WALL		CLADDING		FLOORING
	Exposed Grid - Designer	Concealed Frame - Groove/ Gap-Plain	Concealed Frame- Groove/ Gap - Plain/ Designer	Concealed Frame - Monolith - Plain & Recessed	Non Ventilated - Monolith/ Gap - Plain & Recessed/ Designer	VENTILATED - Groove/ Gap - Plain/ Designer	Open Terrace - Light Steel Frame - Single/ Over Decking- Plain
RESIDENTIAL	●	●			●	●	●
INDUSTRIAL	●	●	●	●	●	●	
WAREHOUSING	●		●		●		
HEALTH CARE		●		●	●	●	●
RETAIL	●	●	●	●	●	●	
EDUCATION	●	●	●	●	●	●	●
HOSPITALITY	●	●	●	●	●	●	●
LEISURE & ENTERTAINMENT	●	●	●	●	●		●

Finishing options

laminates • ceramic tiles • acrylic textures • marble • slate • granite

TECHNICAL SPECIFICATION

AS PER ASTM C1186

Sl. No.	Product Characteristics	Requirement	Performance
Dimensional Tolerances			
1	Thickness (mm) Up to 5 mm 5 mm to 10 mm 10 mm to 16 mm 16 mm to 20 mm	± 0.5 mm ±1.0 mm ± 1.3 mm ±1.5 mm	Within Standard
2	Length (mm)	±0.5% ± 6 mm (max)	Within Standard
3	Width (mm)	±0.5% ±6 mm (max)	Within Standard
4	Straightness of edges-mm/m	2.6(max)	1
5	Squareness of edges-mm/m	2.6(max)	2
Physical Properties :			
6	Category as per Standard	Type A	Type A
7	Grade as per MOR	Grade - III	Grade - III
8	MOR at Wet Condition (in MPa) Minimum	10	> 15
9	Density, Kg/m3	1450±5%	1500±50kg
10	Water Absorption (48 hrs. Test) %	≤33%	20%
11	Moisture Movement (mm/m)	< 0.05	0.04
12	Freeze-Thaw Performance -Observation Strength Retention	No deleterious effect ≥50 Cycles	Internal report
13	Heat / Rain test -Observation Structural Alternation	No Visible Cracks ≥50 Cycles	Internal report
14	Warm Water Test -Observation Strength Retention	No deleterious effect ≥50 Cycles	Internal report
15	Surface Burning Characteristics - As per ASTM E 84-21a (9&18) mm Board	Flame spread Index = 0 Smoke developed Index ≤5	Passes the requirement



2400X1200mm

(Metric)

2440X1220mm

(Imperial)

ACFA PLUS[®]
Specialist Boards



مقاوم للماء
Water Resistant



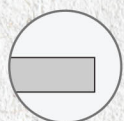
مقاوم للحريق
Fire Resistant



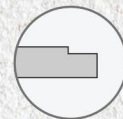
مقاوم للعفن
Mould Resistant



صديق للبيئة
Eco Friendly



Square Edges



Tapered Edges

TE

SE

Specially developed for wet area lining & semi-exposed applications

ACFA plus[®] is a specially engineered “water resistant” fiber cement board. Thanks to a Moisture Absorption value >%5, even less porosity than most Ceramic Tiles, achieved through the “dip-In” silicone coating, ACFA Plus is an ideal solution for Wet Area Lining and Semi Exposed Applications.

Presented in 3 Thicknesses

7
mm

10
mm

13
mm

ACFA
أكفا



ACFA PLUS®

Specially developed for wet area lining

Floor tiles Lining

Wet areas won't be a complex challenge anymore.

ACFA Plus® scores a 10 out of 10 on ASTM D3273 for resistance to mold and mildew propagation under ideal fungal growth conditions. ACFA Plus board cuts easily with a regular scoring Knife and installs quickly with self-drilling screws.

ACFA Plus® Fiber Cement Board provides architects, builders, and Tiling contractors with a durable, water-resistant Tile Backer Board for floors, walls, countertops, tubs, and shower areas.

If the waterproofing fails,
you can rest assured that ACFA plus won't.

Resistant to damage from moisture, it won't deform or lose its structural integrity, which means fewer callbacks and less costly rectifications. **ACFA Plus®** has characteristics for hanging power for tiles, hooks, and fixtures, with a tensile bond strength of up to 75 % greater than wet area plasterboard.

It can hold tiles with a maximum weight between up to 100 kg/m2 depending on the thickness of the tiles and ACFA plus sheet used, ensuring that expensive bathroom tiles are always secure. **ACFA Plus®** Fiber Cement Boards are reliable for walls, floors, and ceiling applications in bathrooms, laundries, and kitchens.

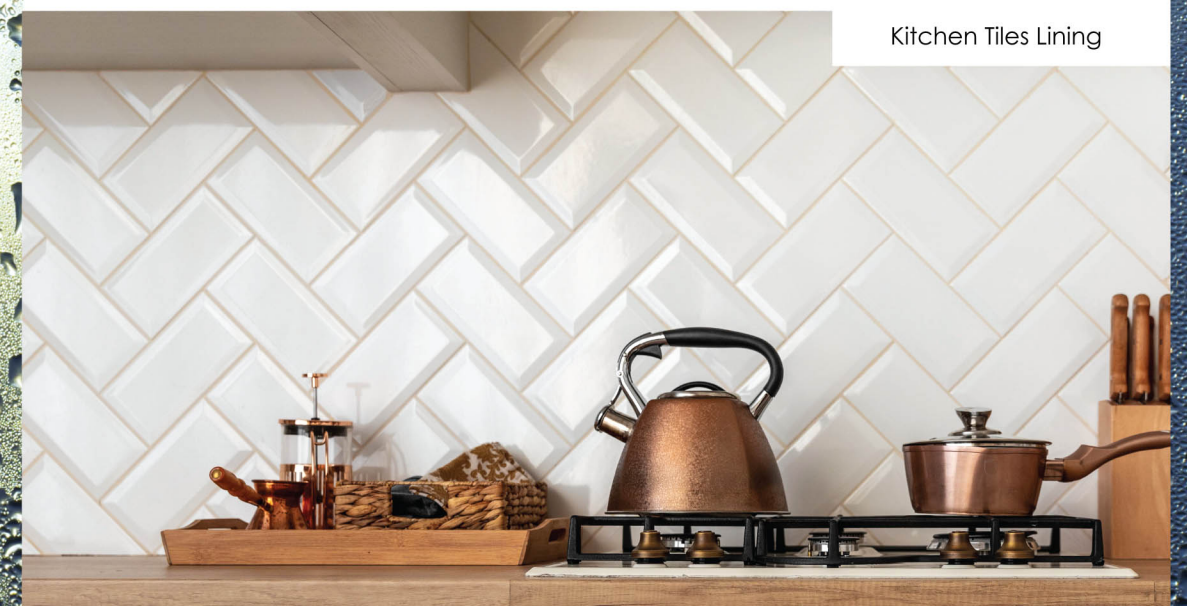


Bathrooms Wall Lining



Finishing options

laminates • ceramic tiles • acrylic textures • marble • slate • granite



Kitchen Tiles Lining



ACFA أكفا

ACFA Plus® is a new age Fiber Cement Board type with excellent performance under semi-exposed weathering conditions. It is perfect when used in ducting, cladding, or soffit linings for midrise structures finished with a suitable exterior grade paint or protective coating.

ACFA Plus® belongs to the new generation of asbestos-free cladding sheets, distinguished by a special "dip-in" silicone coating. Flat sheeting reinforced with best-quality cellulose fibers. The sheets are non-combustible & resistant to rot, fungus & vermin attack.



Soffit Lining

SEGMENT	SOFFIT/EAVES LINING	DUCT ENCASING		CLADDING		ROOF SUBSTRATE/SARKING	BACK LINING
	Concealed Frame - Groove/ Gap-Plain	Concealed Frame - Groove/ Gap - Plain/ Designer	Concealed Frame - Joint less - Plain & Recessed	Non Ventilated - Jointless/ Gap - Plain & Recessed/ Designer	Ventilated - Groove/ Gap - Plain/ Designer	VENTILATED - Groove/ Gap - Plain/ Designer	SPANDREL - Single / Over Bitumen - Plain
RESIDENTIAL	●	●	●	●	●	●	
INDUSTRIAL	●	●		●			
WAREHOUSING							
HEALTH CARE	●	●	●	●	●	●	●
RETAIL	●	●	●	●	●	●	●
EDUCATION	●	●	●	●	●	●	●
HOSPITALITY	●	●	●	●	●	●	●
LEISURE & ENTERTAINMENT	●	●	●	●		●	



External Cladding



TECHNICAL SPECIFICATION

AS PER ASTM C1186

Sl. No.	Product Characteristics	Requirement	Performance
Dimensional Tolerances:			
1	Thickness (mm) Up to 5 mm 5 mm to 10 mm 10 mm to 16 mm 16 mm to 20 mm	± 0.5 mm ±1.0 mm ± 1.3 mm ±1.5 mm	Within Standard
2	Length (mm)	±0.5% ± 6 mm (max)	Within Standard
3	Width (mm)	±0.5% ±6 mm (max)	Within Standard
4	Straightness of edges-mm/m	2.6(max)	
5	Squareness of edges-mm/m	2.6 (max)	
Physical Properties :			
6	Category as per Standard	Type A	Type A
7	Grade as per MOR	Grade-II	Grade - II
8	MOR at Wet Condition (in MPa) Minimum	7	> 9
9	Density, Kg/m3	1300±5%	1300±50kg
10	Water Absorption (48 hrs. Test) %	≤33%	<10%
11	Moisture Movement (mm/m)	< 0.05	0.01
12	Freeze-Thaw Performance -Observation Strength Retention	No deleterious effect ≥50 Cycles	Internal report
13	Heat / Rain test -Observation Structural Alternation	No Visible Cracks ≥50 Cycles	Internal report
14	Warm Water Test -Observation ²⁸ Strength Retention	No deleterious effect ≥50 Cycles	Internal report
15	Surface Burning Characteristics-As per ASTM E 84-21a (9&18) mm Board	Flame spread Index = 0 Smoke developed Index ≤5	Passes the requirement

The Ideal solution for all building types....!



2400X600 mm

(Metric)

ACFA PANEL®

Light Weight Concrete Wall Panel



Health Care



Education



Residential



Industrial



Hospitality



Retail

ACFA Panel® is easy to handle, erect and transport providing flexibility in design and significant structural cost savings. Strong and durable **ACFA Wall Panel** withstands knocks, scrapes, and rough treatment. The tough panels with steel strap reinforcing, are also suitable for seismic and cyclone-prone zones.

EPS BEAD Combustion of EPS in the panel core does not pose a toxicity problem. The CSIRO Division of Building Research states that for foamed polystyrene the potential toxic hazard appears to be no greater than that for wood".



سهل التركيب
Simple construction



تركيب سريع
Quick Installation



عازل للحرارة
Heat Insulation



صديق للبيئة
Eco Friendly

Standard Thicknesses

100 mm | 150 mm





ACFA Panel® is made from a lightweight core of OPC Cement and expanded polystyrene bead aggregate sandwiched between FC Facing Sheets. The durability of FC-facing sheets with a cement bases core, ACFA Wall Panel is designed to take the knocks, scrapes, and other rough treatments that walls are often given.

Fast Track Assembly System

ACFA Wall panels are erected using a simple and speedy assembly system. Panels are tongue and groove joints, simply sliding between the top and bottom steel or aluminum sections and then locking them together. Panel edges are recessed, allowing vertical joints to be taped, set, and sanded flat.



WATER AND TERMITE – RESISTANT

ACFA Wall Panel is a termite-resistant panel with excellent water-resistant properties that withstand adverse weather conditions.



FIRE RESISTANT

Wherever firewalls are needed. ACFA Wall Panel allows flexibility in design. Its fire ratings are equivalent to those for masonry, with a marked improvement in look and feel.



EASY TO INSTALL

ACFA Wall Panel panels arrive ready to install. The tongue-and-groove system allows rapid assembly, with panels being slid between the top and bottom steel or aluminum sections and locked together. Panels can be cut with power tools and are ready to use or to finish with any decorative treatment.



SAVES MONEY

As installation does not require skilled labor or plaster coating, you save by not employing wet trades or other trades. Transport costs are reduced, due to the lightweight construction. Cost per m2 is also far lower than masonry.



SAVES SPACE

Slimmer ACFA Wall Panel panels (150/100 mm) leave you with extra usable floor space without compromising on insulating properties.



SAVES TIME

ACFA Wall Panel's simplicity suits rapid construction techniques. Factory-cured panels mean no on-site curing. The smooth surfaces are ready for surface finishing if desired.



INSULATION

ACFA Wall panels provide excellent thermal and sound insulation. The sound transmission coefficient and thermal resistance are similar to masonry.

TECHNICAL SPECIFICATION

AS PER ASTM C1186



Commercial internal Walls



Half height Internal walls



Non-load Bearing External Walls

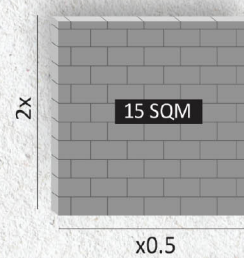
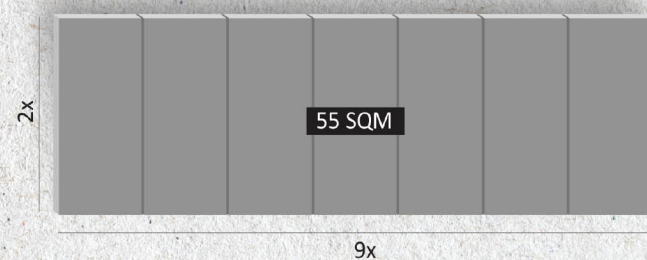
Surface Finish

ACFA Wall Panel ® provides a consistently smooth, flat surface to a standard not achievable by rendering, masonry, or lightweight concrete block. ACFA panels are delivered to the site ready for installation. Once installed, the panels are ready-to-use or to finish with any desired decorative treatment.

Sl. No.	Product Characteristics	Performance
1	Panel Weight [kg]	
	100MM 150MM	70-80 90-100
2	Axial Load Bearing	≥3.5
3	Bending Damage Load [Panel Weight Times]	≥ 3.8
4	Sound Transmission [Rw]	Under Testing
5	Sound Transmission [Rw + ctr]	Under Testing
6	Fire Resistance	
	100MM 150MM	2 Hours > 2 Hours
7	Thermal Conductivity [K]	0.08 W/ m² K
8	Surface Spread of Flame	Class 1
9	Smoke Emission and Toxic Gas Distillation	Not recorded
10	Combustibility	Deemed Non-Combustible
11	Panel Compressive Strength [MPa]	>3.0
12	Water Penetration	No evidence of water penetration
13	Core Water Absorption	< 20% by Volume
14	Partition Stiffness	Passed as Heavy Duty
15	Surface Damage by Hard Body Impact	Under Testing
16	Resistance to Damage by Impact from a Large Soft Body	Passed as Severe Duty
17	Resistance to Perforation by small hard body impact	Passed as Severe Duty
18	Resistance to structural damage by multiple impacts from a large soft body	Passed as Severe Duty

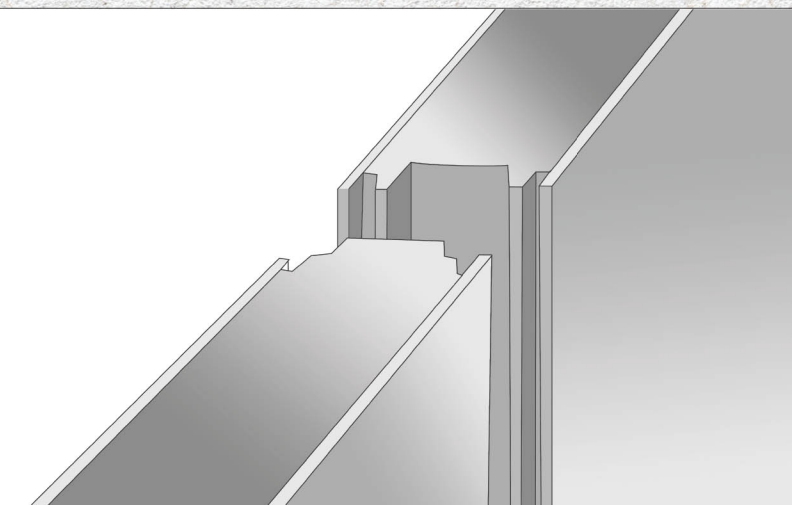
ACFA PANELS 3000x610x150 (h x l x w) Team of 6 skilled labourers		Hollow Block 200 x 400 x 150 (h x l x w) Team os 5 bricklayers and 2 plasterers	
Step	Time	Step	Time
Location marking	0.5 hr	Mortar mixing and setting out	0.5 hr
Bottom and top track cutting and setting	1.0 hr	Block laying	1.0 hr
Install first panel with dowel bars	0.5 hr	Steel fixing for column support	0.5 hr
Installation of vertical panels	1.0 hr	Mixing and casting of column	1.0 hr
Measuring and cutting of horizontal panels	1.0 hr	Cutting time	1.0 hr
Installation of horizontal panels	1.0 hr	Manual Plastering	1.0 hr
Closing of head track	0.25 hr	Curing timev	0.25 hr
Wind post measurement and fixing	0.5 hr	Wind post measurement and fixing	0.5 hr
Closing of joints	1.0 hr	Note: Block work walls cannot be built higher than 6 courses without the mortar setting 16:24 hours. Rigid scaffolding is required to be fixed at 1.5 height. ACFA Panel assumes the scaffolding and the first 6 courses can be done in 24 hours	
Curing time	24 hr		
finishing of joints	1.0 hr		
New panels only require mobile scaffolding and not ristrected by height			
Total Tme	31.75 hrs	Total Tme	106 hrs

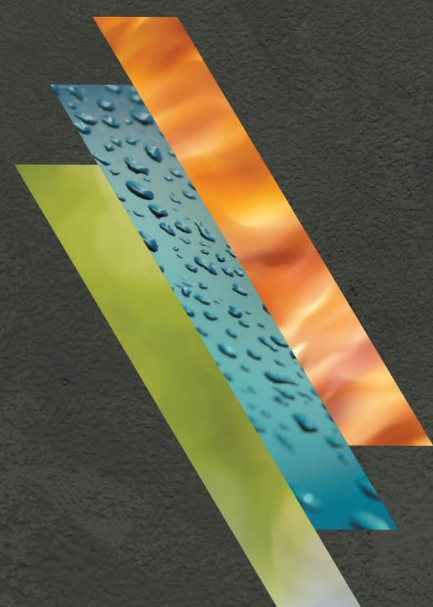
Description	Acfa Panel	Hollow Block	AAC Block
Compressive Strength (N/mm2)	3.33 - 5.17	1.3 - 3.5	3.5 - 5
Direct Pullout (kgs)	151.95 - 331.50	Up to 75	Up to 35
Density (kg/m3)	500 - 650	1400 - 1900	550 - 1000
U-value	0.31 - 1.51	2.3 - 2.8	0.51 - 0.62
Fire Rating	2 - 4 Hours	Varies	3 - 7 Hours
STC Rating	40.5 - 63.5	Up to 46	Up to 39
Water Penetration	Low	Low	Low
Carbon Footprint	Low	High	High
Energy Efficiency	High	Low	Low
Axial Load Capacity (KN)	30 - 80	NA	5 - 15
Flexural Strength (N/mm2)	1.37 - 1.50	2.29 - 3	0.7 - 0.9
Plaster Requirement	Not Required	Required	Required
Wet Area	Acceptable	Acceptable	Acceptable



AVERAGE PANEL WEIGHT

Panel Thickness	75 mm	100 mm	150 mm	200 mm
Panel Weigh (-/+ 10 kg)	87	115	172	229





T e s t C e r t i f i c a t e s

MECHANICAL AND PHYSICAL PROPERTIES OF FIBER-CEMENT FLAT SHEET - TEST REPORT

Client	ACFA Building Solutions		Report Date	22 July 2020
Project	Quality Control for ACFA Fiber-Cement Board Product, Riyadh, Saudi Arabia		Job No.	19-52-9526
Material Description	Non-Asbestos Fiber-Cement Flat Sheet	Lab No.	7226/1-4	
Test Method	ASTM C1185-16	Sample Received by FSL	07 July 2020	
Product Description	Type A, Fiber-Cement Flat Sheets (Light Gary Colored and Smooth Finish)	Sampled by	ACFA Building Solutions from the Plant Storage Yard	

Fugro-Suhaimi Ltd. (FSL) has performed standard testing on samples of Flat Fiber-Cement Sheets to determine the mechanical and physical properties as per your request. The testing was conducted in accordance with the procedure outlined in ASTM C1185-16 "Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles and Clapboards". The test results and pertinent informations are as follows:

1. DIMENSIONS OF FULL-SIZE FIBER-CEMENT FLAT SHEETS			
Specified Dimensions (Nominal)	Measured Dimensions (Average)		Permissible Tolerances (ASTM C1186-16 Specification Requirements)
Length : 2400 mm	2399 mm		± 6.0 mm
Width : 1200 mm	1198 mm		± 6.0 mm
Thickness : 18.0 mm	18.1 mm		± 1.5 mm
2. FLEXURAL STRENGTH AT EQUILIBRIUM CONDITION			
Test Specimens Size:		Length : 305 mm Width : 152 mm Nominal Thickness : 18.0 mm Support Span Length - 254 mm	
(Test Specimens Nos.)	Maximum Breaking Load (N)	Flexural Strength (MPa)	*ASTM C1186-16 Specification Requirement for (Grade-II)
S-1 (Parallel to Length of Sheet)	2221	17.2	
S-2 (Parallel to Length of Sheet)	2451	19.0	
S-3 (Right Angle to Length of Sheet)	929	10.2	
S-4 (Right Angle to Length of Sheet)	938	9.5	
Average Value		14.0	10.0 (Minimum)
3. FLEXURAL STRENGTH AT WET CONDITION			
(Test Specimens Nos.)	Maximum Breaking Load (N)	Flexural Strength (MPa)	*ASTM C1186-16 Specification Requirement for (Grade-II)
S-1 (Parallel to Length of Sheet)	1760	15.8	-
S-2 (Parallel to Length of Sheet)	2106	16.3	-
S-3 (Right Angle to Length of Sheet)	872	6.8	-
S-4 (Right Angle to Length of Sheet)	806	6.6	-
Average Value		11.4	7.0 (Minimum)
4. AVERAGE WET FLEXURAL STRENGTH TO AVERAGE EQUILIBRIUM STRENGTH OF ABOVE TESTED SAMPLE, PERCENTAGE			
Determination		Test Result	*ASTM C-1186-16 Specification Requirement
Average Wet Flexural Strength to Average Equilibrium Strength, %		81.4	50 (Minimum)
* ASTM C-1186-16 “Standard Specification for Flat Fiber-Cement Sheets”			

5. MOISTURE CONTENT	
(Test Specimens Conditioned at 50 ± 5 % Relative Humidity and Temperature of 23 ± 2 °C)	
Test Specimens Size: Length : 152 mm Width : 76 mm Nominal Thickness : 18.0 mm	
(Test Specimens Nos.)	Moisture Content % by weight
S-1	10.5
S-2	10.3
S-3	10.0
S-4	9.2
Average Value	
10.0	
6. WATER ABSORPTION	
Procedure: Test Specimens Oven-Dried at a Temperature of 90 ± 2 °C to Constant Weight and Submerged for 48 hours in Clean Water at 23 ± 4 °C	
Test Specimens Size: Length : 100 mm Width : 100 mm Nominal Thickness : 18.0 mm	
(Test Specimens Nos.)	Water Absorption % by weight
S-1	28.6
S-2	30.3
S-3	30.5
S-4	30.6
Average Value	
30.0	
7. DENSITY	
Procedure: Test Specimens Oven-Dried at 90 ± 2 °C to Constant Weight prior to Density Determination)	
Test Specimens Size: Length : 305 mm Width : 152 mm Nominal Thickness : 18.0 mm	
(Test Specimens Nos.)	Density (kg/m³)
S-1	1380
S-2	1365
S-3	1360
S-4	1370
Average Value	
1370	
8. WATER TIGHTNESS	
Test Specimens Size: Length : 610 mm Width : 510 mm Nominal Thickness : 18.0 mm	
Procedure:	A total of 4 Test Specimens obtained from Four Different Sheet Samples. The Test Specimens subjected to a water head of 50 mm above the face of the sheet by placing and sealing with the a suitable frame as per the testing requirement. The test specimens placed in a controlled environment at 23 ± 2 °C and 50 ± 5 % relative humidity for a period of 24 hours. The test specimens visually examined and traces of moisture appeared on the underside of the test specimens sheets.
Observation	No formation of water drops on underside of specimens.
Water Tightness Test Result:	Satisfactory

9. MOISTURE MOVEMENT	
Test Specimens Size:	Length : 305 mm Width : 76 mm Nominal Thickness : 18.0 mm
Procedure:	A total of 4 Test Specimens obtained from Four Different Sheet Samples, two cut parallel with the long dimension of the sheet and two from the same sheet cut at right angles to the long dimension. Each test specimen conditioned to practical equilibrium at a relative humidity of 30 ± 2 % at a temperature of 23 ± 2 °C and the length measured. Subsequently, the specimen conditioned to practical equilibrium at a relative humidity of 90 ± 5 % at a temperature of 23 ± 3 °C and the length measured.
Test Result:	The linear variation with change in moisture content is reported as the percentage change in length based on the length at relative humidity change from 30 to 90 %. The measurements recorded for all the tested specimens and the average value is reported.
	Linear Change (Average Value) : 0.09 %.
10. THERMAL CONDUCTIVITY (ISO 6946)	
(Test Specimens Nos.)	Thermal Conductivity (W/m x °C)
S-1	0.185
S-2	0.172
S-3	0.178
S-4	0.193
Average Value	0.182
Note:	The thermal conductivity testing conducted on the oven-dried test specimens.
Remarks:	The test results indicated conformance to ASTM C-1186-12 Specification Requirements for the Flexural Strength (Grade-II) and Thickness. The supplementary tests conducted as per your request and reportedly submitted.




SYED ARSHADULLAH
BRANCH MANAGER-YANBU

MECHANICAL AND PHYSICAL PROPERTIES OF FIBER-CEMENT FLAT SHEET - TEST REPORT

Client	ACFA Building Solutions	Report Date	15 May 2019
Project	Quality Control for ACFA Fiber-Cement Board Product, Riyadh, Saudi Arabia	Job No.	19-52-9526
Material Description	Non-Asbestos Fiber-Cement Flat Sheet	Lab No.	6032/1-4
Test Method	ASTM C-1185-12	Sample Received by FSL	22 April 2019
Product Description	Type A, Fiber-Cement Flat Sheets (Light Gary Colored and Smooth Finish)	Sampled by	ACFA Building Solutions from the Plant Storage Yard

Fugro-Suhaimi Ltd. (FSL) has performed standard testing on samples of Flat Fiber-Cement Sheets to determine the mechanical and physical properties as per your request. The testing was conducted in accordance with the procedure outlined in ASTM C1185-12 "Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles and Clapboards". The test results and pertinent informations are as follows:

1. DIMENSIONS OF FULL-SIZE FIBERR-CEMENT FLAT SHEETS			
Specified Dimensions (mm) (Nominal)	Measured Dimensions (mm) (Average)		Permissible Tolerances (mm) (ASTM C-1186-12 Specification Requirements)
Length : 2400	2399		± 12.0
Width : 1200	1198		± 6.0
Thickness : 9.0	8.8		± 1.0
2. FLEXURAL STRENGTH AT EQUILIBRIUM CONDITION			
(Test Specimens Nos.)	Maximum Breaking Load (N)	Flexural Strength (MPa)	*ASTM C-1186-12 Specification Requirement for (Grade-II)
S-1 (Parallel to Length of Sheet)	858	26.6	
S-2 (Parallel to Length of Sheet)	870	26.9	
S-3 (Right Angle to Length of Sheet)	363	11.2	
S-4 (Right Angle to Length of Sheet)	330	10.2	
Average Value		18.7	10.0 (Minimum)
3. FLEXURAL STRENGTH AT WET CONDITION			
(Test Specimens Nos.)	Maximum Breaking Load (N)	Flexural Strength (MPa)	*ASTM C-1186-12 Specification Requirement for (Grade-II)
S-1 (Parallel to Length of Sheet)	479	14.8	-
S-2 (Parallel to Length of Sheet)	504	15.6	-
S-3 (Right Angle to Length of Sheet)	248	7.7	-
S-4 (Right Angle to Length of Sheet)	246	7.6	-
Average Value		11.4	7.0 (Minimum)
4. AVERAGE WET FLEXURAL STRENGTH TO AVERAGE EQUILIBRIUM STRENGTH OF ABOVE TESTED SAMPLE, PERCENTAGE			
Determination	Test Result		*ASTM C-1186-12 Specification Requirement
Average Wet Flexural Strength to Average Equilibrium Strength, %	61.0		50 (Minimum)
* ASTM C-1186-12 “Standard Specification for Flat Fiber-Cement Sheets”			

5. MOISTURE CONTENT

(Test Specimens Conditioned at 50 ± 5 % Relative Humidity and Temperature of 23 ± 2 °C)

Test Specimens Size: Length : 152 mm Width : 76 mm Nominal Thickness : 9.0 mm	
(Test Specimens Nos.)	Moisture Content % by weight
S-1	4.9
S-2	5.1
S-3	7.3
S-4	8.4
Average Value	6.4

6. WATER ABSORPTION

Procedure: Test Specimens Oven-Dried at a Temperature of 90 ± 2 °C to Constant Weight and Submerged for 48 hours in Clean Water at 23 ± 4 °C

Test Specimens Size: Length : 100 mm Width : 100 mm Nominal Thickness : 9.0 mm	
(Test Specimens Nos.)	Water Absorption % by weight
S-1	30.5
S-2	31.7
S-3	30.4
S-4	30.7
Average Value	30.8

7. DENSITY

Procedure: Test Specimens Oven-Dried at 90 ± 2 °C to Constant Weight prior to Density Determination)

Test Specimens Size: Length : 305 mm Width : 152 mm Nominal Thickness : 9.0 mm	
(Test Specimens Nos.)	Density (kg/m ³)
S-1	1379
S-2	1362
S-3	1371
S-4	1360
Average Value	1368

8. WATER TIGHTNESS

Test Specimens Size: Length : 610 mm Width : 510 mm Nominal Thickness : 9.0 mm	
Procedure:	A total of 3 Test Specimens obtained from Three Different Sheet Samples. The Test Specimens subjected to a water head of 50 mm above the face of the sheet by placing and sealing with the a suitable frame as per the testing requirement. The test specimens placed in a controlled environment at 23 ± 2 °C and 50 ± 5 % relative humidity for a period of 24 hours.
Observation	The test specimens visually examined and traces of moisture appeared on the underside of the test specimens sheet. However, any formation of drops of water were not observed.
Water Tightness Test Result:	Satisfactory

FUGRO-SUHAIMI LTD.

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Royal Commission, Madinat Yanbu Al-Sinaiyah, KSA
Saudi Arabia - E-mail : falyanbu@fugro-suhaimi.com
Fax. : (014) 321 0963 Tel. : (014) 396 2173

9. MOISTURE MOVEMENT

Test Specimens Size: Length : 305 mm Width : 76 mm Nominal Thickness : 9.0 mm	
Procedure:	A total of 4 Test Specimens obtained from the Sheet Sample, two cut parallel with the long dimension of the sheet and one from the same sheet cut at right angles to the long dimension. Each test specimen conditioned to practical equilibrium at a relative humidity of 30 ± 2 % at a temperature of 23 ± 2 °C and the length measured. Subsequently, the specimen conditioned to practical equilibrium at a relative humidity of 90 ± 5 % at a temperature of 23 ± 3 °C and the length measured.
Test Result:	The linear variation with change in moisture content is reported as the percentage change in length based on the length at relative humidity change from 30 to 90 %. The measurements recorded for all the tested specimens and the average value is reported.
Linear Change (Average Value) : 0.07 %.	

Remarks:	The test results indicated conformance to ASTM C-1186-12 Specification Requirements for the Flexural Strength (Grade-II) and Thickness. The supplementary tests conducted as per your request and reportedly submitted.
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Arshad
SYED ARSHADULLAH
BRANCH MANAGER-YANBU



REPORT ON LINEAR THERMAL EXPANSION OF ACFA FIBRE CEMENT BOARD

Page 1 of 1

Client : ACFA Industrial Company
Address : 6145, Alyasmin, 2839, Riyadh 13322, Saudi Arabia.
Project Name : Qulaity Control Testing
Sample Description : **ACFA Fibre Cement Board**
Sample Size (LXWXT) : 100X25X12 mm
Source of Sample : Client
Sampled by : Client
Sample brought by : Client
Ambient Temperature : 23±2 °C
Relative Humidity : 50±5%
Testing Teperature : -30 °C to +30°C
Conditioning Temperature : 23±2 °C
Conditioning Period : 2 days

Report No. : **POLR-2305/1799**
Lab. Project No : **OG-1361**
Lab. Ref. No : **POLQ-2305/876**
Sample Ref. No. : Not Provided
Sampling date : 05/05/2023
Date Received : 05/05/2023
Date test Started : 08/05/2023
Date Test Completed : 10/05/2023
Report Date : 13/05/2023
Tested by : IKN

Test Result Data:

Test Parameter	Unit	Result
Linear Thermal Expansion	m/m. °C	8.9X10 ⁻⁶

Test method : **ASTM D 696-16**
Test method variation : None
Remarks : None



Authorized Signatory
Adil Kable
Chemical Supervisor

Results relate only to the item tested.
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REPORT ON THERMAL PROPERTIES OF ACFA FIBRE CEMENT BOARD

Client : **ACFA Industrial Company**
Address : 6145, Alyasmin, 2839, Riyadh 13322, Saudi Arabia.
Project name : Qulaity Control Testing
Sample Description : **ACFA Fibre Cement Board**
Source of Sample : Client
Sample Size (LXWXT) : 300X300X12 mm
Sampled by : Client
Sample brought by : Client
Thickness of Specimen : 12.18mm
Density of Specimen : 1500 kg/m³

Lab Ref No. : **POLQ-2305/872**
Lab. Report No : **POLR-2305/1793, 1817**
Lab. Project No : **OG-1361**
Upper Plate Temperature : 32°C
Lower Plate Temperature : 38°C
Mean Temperature : 35°C
Date Received : 05/05/2023
Date Test Started : 08/05/2023
Date Test Completed : 09/05/2023
Report Date : 11/05/2023
Tested by : IKN

Test Data:

Item No.	Test Name	Unit	Test Result
1	Thermal Conductivity	W/mK	0.2636
2	Thermal Resistance	m²K/W	0.046

Test Method : **ASTM C518-17, EN ISO 6946**
Test method variation : None
Remarks : None



Authorized Signatory
Adil Kable
Chemical Supervisor

Results relate only to the item tested.
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R-TC-001
Issue: 01
Issued on: 28/02/16

TEST REPORT REACTION TO FIRE TEST

Test Sponsor:

ACFA Industrial Company for Industries
PO Box 15132
Saud Building, Al Yasmeen District, King Abdul Aziz Street,
Riyadh, Saudi Arabia
T: +966 11 454 8395

Test Material / Assembly:

6 mm thick Fiber cement board

Test Standard

BS EN ISO 1182:2020 Reaction to Fire Tests for Products - Non-Combustibility Test

Accreditation

Testing

ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories with:

United Kingdom Accreditation Service (UKAS) - Testing Laboratory: 4439
www.ukas.com



Memberships

Members of European Group of Organization for Fire Testing, Inspection and Certification

www.egolf.org.uk

Member of Association for Specialist Fire Protection

www.asfp.org.uk

Member of Centre for Window and Cladding Technology

www.cwct.co.uk



The work, which is the subject of this report falls under the accreditations of ISO 17025 UKAS.

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1. INTRODUCTION

Determination of Non-Combustibility performance of 6mm thick fibre cement board as per BS EN ISO 1182:2020 Reaction to Fire Tests for Products - Non-Combustibility Test.

2. SPONSOR

Name: ACFA Industrial Company for Industries
Address: PO Box 15132
Saud Building, Al Yasmeeen District, King Abdul Aziz
Street,
Riyadh, Saudi Arabia
T: +966 11 454 8395

3. TESTING LABORATORY

Name: Thomas Bell-Wright International Consultants (TBWIC)
Address: Corner of 46th and 47th streets, Jebel Ali Industrial Area 1
P.O. Box 26385, Dubai, U.A.E.
T: +971 (0) 4 821 5777
www.bell-wright.com

4. DATE OF TEST

Sample received: 16-Feb-23
Test date: 09-Mar-23

The test was not witnessed by the sponsor.

5. SPECIMEN DESCRIPTION

Note: The testing laboratory does not hold any responsibility for the information that has been provided by the test sponsor which could not be verified by the testing laboratory, as this could affect the validity of the test result. All information that could not be verified will be indicated by an asterisk () mark.*

Product Description	6mm thick Fibre cement board*
Trade Name	ACFA Board, ACFA Plus*
Manufacturer	ACFA Industrial Company for Industries*
Color	Cream (observed by TBWIC)
Overall thickness	6mm (measured by TBWIC)
Density	1310 kg/m ³ * (stated)
Specimen placement	The specimen was cylindrical with a diameter of 45 mm, height of 50 mm and composed of 8 layers. The layers were held together firmly, without significant compression by 0.5mm diameter fine steel wires and was inserted into the specimen holder. The specimen holder with the sample was then placed in the stabilized furnace in less than 5 seconds.

6. SPECIMEN VERIFICATION

The choice and design and the definition of the specimen have been made by ACFA Industrial Company for Industries, and TBWIC Testing Laboratory has not been involved in the selection or design of the specimen. The results of the test apply only to the samples as received.

Note: There are contexts where information has been provided by the sponsor and verification of information has been done through either technical datasheet or other document submission, or as indicated directly by the sponsor. For this reason, materials have been tested in an as-received condition and TBWIC bears no liability for the legitimacy of the submitted information.

7. METHOD OF TEST

7.1. Test Procedure

The test was carried out in accordance with BS EN ISO 1182:2020, *Reaction to fire tests for products – Non-combustibility test*.

Five specimens were tested following the vertical tube furnace stabilization temperature of 750 ± 5 °C and examination of the whole equipment. Test specimens were inserted into the specimen holder and then placed into the furnace. Tests were carried out for a period of 30 minutes or more for each specimen.

After cooling to ambient temperature in a desiccator, the specimens were weighed including any char, ash or debris recovered.

7.2. Conditioning

After delivery on 14-Dec-22, the specimen was conditioned for [5] days prior to the test at 21 to 25 °C and 45 to 55% relative humidity as per EN 13238, *Reaction to fire tests for building products – Conditioning procedures and general rules for the selection of substrates*.

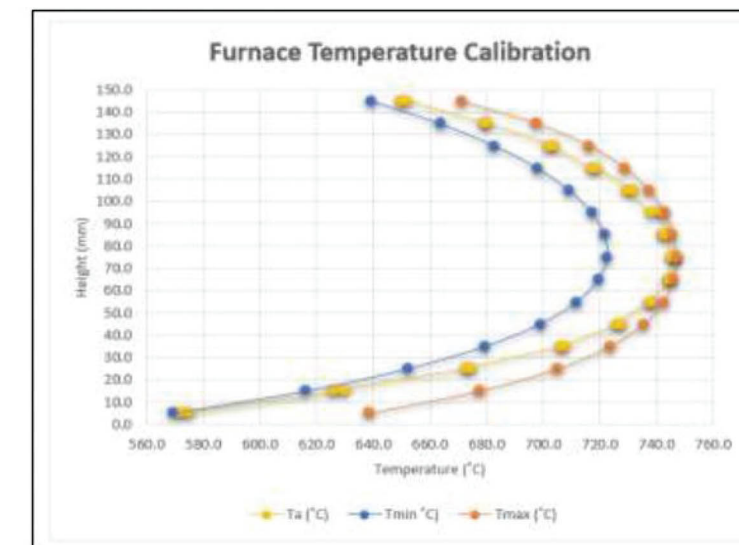
After conditioning, the test specimens were dried in a ventilated oven maintained at 55 to 65 °C, for between 20 and 24 hours and cooled to ambient temperature in a desiccator prior to testing.

Note: There were deviations observed in the temperature and relative humidity in 4 separate probes of thermo-hygrometer in our conditioning room, however the average values were within the limit.

8. CALIBRATION RESULTS

Generally, calibration of the furnace temperature shall be carried out for a new furnace and whenever the furnace tube, winding, insulation or power supply is replaced.

Furnace Temperature Profile Values



Height, mm	Tmin, °C	Tmax, °C	Tave, °C
145	-	652.0	649.9
135	-	679.5	680.1
125	-	702.3	703.8
115	-	717.3	718.9
105	-	729.8	731.7
95	-	738.3	741.7
85	-	742.0	743.5
75	746.7	745.3	747.1
65	744.9	744.5	-
55	738.2	737.9	-
45	727.9	725.7	-
35	707.7	706.2	-
25	674.8	672.6	-
15	630.0	625.7	-
5	575.1	571.8	-

Furnace Wall Temperature Calibration

Vertical Axis	a (30mm)	b (0mm)	c (-30mm)
1(0°)	760.7	760.1	759.8
2(+120°)	761.4	763	763.4
3(+240°)	750.9	749.6	759.1

	Tavg.	Tdev.
Axis 1	760.20	0.20
Axis 2	762.60	0.52
Axis 3	753.20	0.72
Tavg. dev. axis		0.48%

The average deviation of temperature on the three vertical axes from the average furnace wall temperature, Tavg. dev. axis shall be less than 0.5%.

	Tavg.	Tdev.
Level a	757.67	0.13
Level b	757.57	0.14
Level c	760.77	0.28
Tavg. Dev. level		0.18%

The average deviation of temperature on the three levels from the average furnace wall temperature, Tavg. dev. level shall be less than 1.5%.

9. OBSERVATION

Test Data and Observation

Observations	1	2	3	4	5
Mass before the test, g	96.7	98.1	96.9	99.0	97.5
Mass after the test, g	83.4	83.6	84.9	86.4	85.6
Occurrence of any sustained flaming, (Yes/No)	No	No	No	No	No
Duration of sustained flaming, seconds	Nil	Nil	Nil	Nil	Nil
Occurrence of any steady blue-coloured luminous gas zones, (Yes/No)	No	No	No	No	No
Temperature measured by the furnace thermocouple, $T_{1,i}$, °C					
Initial temperature, $T_{1,i}$	754.9	755.0	753.2	754.1	753.9
Maximum temperature, $T_{1,max}$	799.2	787.4	789.5	791.6	793.9
Final temperature, $T_{1,f}$	798.6	785.9	788.3	790.2	792.4
Temperature measured by the furnace thermocouple, $T_{2,i}$, °C					
Initial temperature, $T_{2,i}$	750.2	749.9	747.8	749.6	748.3
Maximum temperature, $T_{2,max}$	789.5	788.0	788.5	789.3	790.9
Final temperature, $T_{2,f}$	788.0	785.4	786.1	788.1	789.3

Correction Factor for Furnace Thermocouple:

Thermocouple Serial No.	Thermocouple Serial No.	Correction Factor at Reference Temperatures (°C)			
		@ 700.0	@ 750.0	@ 800.0	@ 850.0
Furnace Thermocouple, T1	EAWI04A	0.50	0.40	0.60	0.60
Furnace Thermocouple, T2	EAWI04B	1.00	0.80	0.70	0.70

The thermocouple correction term received from the calibration certificate has been applied to the furnace temperature output as per Clause 4.4 of BS EN ISO 1182:2020 test standard:

	1	2	3	4	5
Furnace Thermocouple, T₁					
Maximum temperature, $T_{1,max}$ (°C)	799.2	787.4	789.5	791.6	793.9
Correction Factor as per Reference Temperature (°C)	0.4	0.4	0.4	0.4	0.4
Corrected Maximum Temperature $T_{1,max}$ (°C)	799.6	787.8	789.9	792.0	794.3
Final temperature, $T_{1,f}$ (°C)	798.6	785.9	788.3	790.2	792.4
Correction Factor as per Reference Temperature (°C)	0.4	0.4	0.4	0.4	0.4
Corrected Final Temperature $T_{1,f}$ (°C)	799.0	786.3	788.7	790.6	792.8
Furnace Thermocouple, T₂					
Maximum temperature, $T_{2,max}$ (°C)	789.5	788.0	788.5	789.3	790.9
Correction Factor as per Reference Temperature (°C)	0.8	0.8	0.8	0.8	0.8
Corrected Maximum Temperature $T_{2,max}$ (°C)	790.3	788.8	789.3	790.1	791.7
Final temperature, $T_{2,f}$ (°C)	788.0	785.4	786.1	788.1	789.3
Correction Factor as per Reference Temperature (°C)	0.8	0.8	0.8	0.8	0.8
Corrected Final Temperature $T_{2,f}$ (°C)	788.8	786.2	786.9	788.9	790.1

Furnace thermocouple rise, °C, $\Delta T_1 = T_{1,max} - T_{1,f}$	1	2	1	1	2
Furnace thermocouple rise, °C, $\Delta T_2 = T_{2,max} - T_{2,f}$	2	3	2	1	2
Average temperature rise, °C, $\Delta T = (\Delta T_1 + \Delta T_2)/2$	1	2	2	1	2

10. SUMMARY OF RESULTS

The test specimen has been evaluated in accordance with as per BS EN ISO 1182:2020 Non-Combustibility test.

Deviations: No deviation from the test method.

The test results are:

SPECIMEN	1	2	3	4	5	Mean
Average temperature rise, °C, $\Delta T = (\Delta T_1 + \Delta T_2)/2$	1	2	2	1	2	2
Duration of sustained flaming, seconds	0	0	0	0	0	0
Mass Loss (%)	14%	15%	12%	13%	12%	13%

11. LIMITATION

“The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use” – Clause 9p of BS EN ISO 1182:2020 test standard.

This report and all records of the test to which it relates may be not be retained by TBWIC further than 5 years from the date of testing.

This test report is respectfully submitted by: Thomas Bell-Wright International Consultants

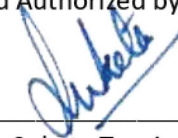
Prepared by:



Malak Megly
Junior Fire Testing Engineer



Reviewed and Authorized by:



Suketa Tyagi
Manager – Reaction to Fire

Report Revision Tracking		
Report Reference	Date Issued	Notes & Amendments
Rev. 00	19-Jun-23	This is the first issue of the report. No revisions are included.

---- End of Test Report ----

TEST REPORT REACTION TO FIRE TEST

Test Sponsor:

ACFA Industrial Company for Industries
PO Box 15132
Saud Building, Al Yasmeeen District, King Abdul Aziz Street,
Riyadh, Saudi Arabia
T: +966 11 454 8395

Test Material / Assembly:

6 mm thick Fiber cement board

Test Standard

BS EN ISO-1716:2018 Reaction to Fire Tests for Products - Determination of the Gross Heat of Combustion (Calorific Value)

Accreditation

Testing

ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories with:

United Kingdom Accreditation Service (UKAS) - Testing Laboratory: **4439**
www.ukas.com



Memberships

Members of European Group of Organization for Fire Testing, Inspection and Certification

www.egolf.org.uk

Member of Association for Specialist Fire Protection

www.asfp.org.uk

Member of Centre for Window and Cladding Technology

www.cwct.co.uk



The work which is the subject of this report falls under the accreditations of ISO 17025 UKAS.

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1. INTRODUCTION

Determination of the calorific potential of 6 mm thick Fiber cement board during combustion in accordance with BS EN ISO 1716:2018; Reaction to fire tests for products - Determination of the Gross Heat of Combustion (Calorific Value).

2. SPONSOR

Name: ACFA Industrial Company for Industries
Address: PO Box 15132
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Riyadh, Saudi Arabia
T: +966 11 454 8395

3. TESTING LABORATORY

Name: Thomas Bell-Wright International Consultants (TBWIC)
Address: Corner of 46th and 47th streets, Jebel Ali Industrial Area 1
P.O. Box 26385, Dubai, U.A.E.
T: +971 (0) 4 821 5777
www.bell-wright.com

4. DATE OF TEST

Sample received: 16-Aug-22
Test date: 23-Aug-22

The test was not witnessed by the sponsor.



5. SPECIMEN DESCRIPTION

Note: The testing laboratory does not hold any responsibility for the information that has been provided by the test sponsor which could not be verified by the testing laboratory, as this could affect the validity of the test result. All information that could not be verified will be indicated by an asterisk () mark.*

Product Description	6mm thick Fibre cement board*
Trade Name	ACFA Board, ACFA Plus*
Manufacturer	ACFA Industrial Company for Industries*
Color	Cream (observed by TBWIC)
Overall thickness	6mm (measured by TBWIC)
Density	1310 kg/m ³ * (stated)
Specimen placement	A minimum of three test specimens were tested using the crucible method in accordance with Clause 7.9 of BS EN ISO 1716:2018 test standard.

6. SPECIMEN VERIFICATION

The choice, design and definition of the specimen have been made by ACFA Industrial Company for Industries, and TBWIC Testing Laboratory has not been involved in the selection or design of the specimen. The results apply to the samples as received.

Note: There are contexts where information has been provided by the sponsor and verification of information has been done through either technical datasheet or other document submission, or as indicated directly by the sponsor. For this reason, materials have been tested in an as-received condition and TBWIC bears no liability for the legitimacy of the submitted information.

7. SPECIMEN PREPARATION PROCEDURE

In accordance with section 7.2 of BS EN ISO 1716:2018, a minimum mass of 50g was taken from the homogeneous product. A minimum mass of 10g was taken from the non-substantial component of the non-homogeneous product.

The sample was prepared as per sections 7.2.2 of BS EN ISO 1716:2018. Sample was ground and reduced to small granules and treated as powder as per section 7.4 of BS EN ISO 1716:2018.

8. METHOD OF TEST

8.1. Test Procedure

The test was carried out using the crucible method in accordance with Clause 7.9 of BS EN ISO 1716:2018 test standard - Reaction to fire tests for products - Determination of the Gross Heat of Combustion (Calorific Value).

The combustion was facilitated using a combustion aid, benzoic acid; an additional combustible substance of known and high calorific value. The water equivalent (E) of Bomb 1 was 0.005669 MJ/K & Bomb 2 was 0.005676 MJ/K, as per the latest calibration.

8.2. Conditioning

After delivery on 16-Aug-22, the specimen was conditioned at 21 to 25 °C and 45 to 55% relative humidity in accordance with EN 13238:2010, *Reaction to fire tests for building products – Conditioning procedures and general rules for selection of substrates*.

Note: There were deviations observed in the temperature and relative humidity in 4 separate probes of thermo-hygrometer in our conditioning room. However, the average values were within standard limits.

9. SUMMARY OF RESULTS

The test specimen has been evaluated in accordance with BS EN ISO 1716:2018, *Reaction to fire tests for products - Determination of the Gross Heat of Combustion (Calorific Value)*.

Deviations: There were no deviations from the test standard.

9.1. Tabulated data

The test results are:

		Fibre cement board
	No. of Tests	3
Trial 1	Specimen weight (g)	0.1000
	Gross calorific value (MJ/kg)	-1.4
Trial 2	Specimen weight (g)	0.1001
	Gross calorific value (MJ/kg)	-1.4
Trial 3	Specimen weight (g)	0.1002
	Gross calorific value (MJ/kg)	-1.3
Average Gross Calorific Value (MJ/kg)		-1.4

9.2. Observations

In accordance with Section 8.3.11 of BS EN ISO 1716:2018, specimens were observed to be completely combusted.

10. VALIDATION OF THE TEST RESULTS

To be validated, the test results shall comply with the criteria specified in Clause 11 of. The following criteria apply.

Gross heat of combustion	Acceptance criteria	Range of validity
Q _{PCS} (MJ/kg)	≤0.2 MJ/kg	From any negative value to 3.2 MJ/kg
	Within 5% of the average of the 3 results	From 3.2 MJ/kg to 20.0 MJ/kg
	Within 10% of the average of the 3 results	Greater than 20.0 MJ/kg
Q _{PCS} (MJ/m ²) ^a	≤0.1 MJ/m ²	From any negative value to 4.1 MJ/m ²

	Within 5% of the average of the 3 results	From 4.1 MJ/m ² to 20 MJ/m ²
	Within 10% of the average of the 3 results	Greater than 20 MJ/m ²
^a For non-substantial components only.		

10.1. Validity

The differences between the maximum and minimum Q_{PCS} values were within the range of validity specified in Clause 11 of BS EN ISO 1716:2018.

11. LIMITATION

"The test results relate to the behavior of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use." - Clause 10q of BS EN ISO 1716:2018 test standard.

This report and all records of the test to which it relates may not be retained by TBWIC further than 5 years from the date of testing.

This test report is respectfully submitted by: Thomas Bell-Wright International Consultants

Prepared by:

Reviewed and Authorized by:


 Malak Megly
 Junior Fire Testing Engineer


 Suketa Tyagi
 Manager – Reaction to Fire



Report Revision Tracking		
Report Reference	Date Issued	Notes & Amendments
Rev. 00	19-Jun-23	This is the first issue of the report. No revisions are included.

---- End of Test Report ----



CLASSIFICATION OF REACTION TO FIRE PERFORMANCE IN ACCORDANCE WITH BS EN 13501-1:2018

Test Sponsor:

ACFA Industrial Company for Industries
PO Box 15132
Saud Building, Al Yasmeen District, King Abdul Aziz Street,
Riyadh, Saudi Arabia
T: +966 11 454 8395

Test Material / Assembly:

6 mm thick Fiber cement board

Memberships

Members of European Group of Organization for Fire Testing, Inspection and Certification

www.egolf.org.uk

Member of Association for Specialist Fire Protection

www.asfp.org.uk

Member of Centre for Window and Cladding Technology

www.cwct.co.uk



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1. INTRODUCTION

This classification report defines the classification assigned to 6 mm thick Fiber cement board in accordance with the procedures given in BS EN 13501-1:2018: Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests.

2. SPONSOR

Name: ACFA Industrial Company for Industries
Address: PO Box 15132
Saud Building, Al Yasmeeen District, King Abdul Aziz
Street,
Riyadh, Saudi Arabia
T: +966 11 454 8395

3. TESTING LABORATORY

Name: Thomas Bell-Wright International Consultants (TBWIC)
Address: Corner of 46th and 47th Streets,
Jebel Ali Industrial Area 1
Dubai, UAE
T: T: +971 04 821 5777
Website: www.bell-wright.com

4. DETAILS OF CLASSIFIED PRODUCT

Note: The testing laboratory does not hold any responsibility for the information that has been provided by the test sponsor which could not be verified by the testing laboratory, as this could affect the validity of the test result. All information that could not be verified will be indicated by an asterisk () mark.*

Product Description	6mm thick Fibre cement board*
Trade Name	ACFA Board, ACFA Plus*
Manufacturer	ACFA Industrial Company for Industries*
Color	Cream (observed by TBWIC)
Overall thickness	6mm (measured by TBWIC)
Density	1310 kg/m ³ * (stated)

5. SPECIMEN PREPARATION PROCEDURE

The choice and design and the definition of the specimen have been made by ACFA Industrial Company for Industries, and TBWIC testing laboratory has not been involved in the selection or design of the specimen. The results of the test apply only to the samples as received.

Note: There are contexts where information has been provided by the sponsor and verification of information has been done through either technical datasheet or other document submission, or as indicated directly by the sponsor. For this reason, materials have been tested in an as-received condition and TBWIC bears no liability for the legitimacy of the submitted information.

6. REPORT & TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

6.1. Reports

Name of Laboratory	Test Sponsor	Test Report No.	Test Method/Field of Application Rules
Thomas Bell-Wright International Consultants (TBWIC)	ACFA Industrial Company for Industries	WE128-3	BS EN ISO-1716:2018
		XD041-1	BS EN ISO 1182:2020

6.2. Results

Test Method	Test Parameter			No. of tests	Results	
	Component type	Limits	Layer		Continuous parameter-mean (m)	Compliance parameters
BS EN ISO 1716:2018	Homogeneous	PCS ≤ 2.0 MJ/kg	Fibre cement board	3	-1.4	Compliant

Test Method	Parameter	No. of tests	Results	
			Continuous parameter-mean (m)	Compliance parameters
BS EN ISO 1182:2020	Mass loss ≤ 50%	5	13	Compliant
	Furnace thermocouple rise ≤ 30°C		2	
	Sustained flaming occurred, tf = 0 second		0	

7. CLASSIFICATION & FIELD OF APPLICATION

7.1. Reference of classification

This classification has been carried out in accordance with clause 8 of EN 13501-1:2018.

7.2. Classification

The product, 6 mm thick Fiber cement board, in relation to its reaction to fire behavior are classified;

Reaction to fire classification: A1

7.3. Field of application

This classification is valid for the following end use applications:

- Construction applications

This classification is also valid for the following product parameters:

Overall Product Thickness	Valid for thickness ≥ 6mm
Product Density	No variation allowed
Product Composition	No variation allowed
Product Construction	No variation allowed

8. LIMITATIONS

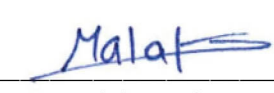
This document does not represent type approval or certification of the product. Similarly, the BS EN ISO 1716 & BS EN ISO 1182 fire tests and related work which are a subject of this classification report have been conducted under Thomas Bell-Wright International Consultant's ISO 17025 UKAS accreditation scheme and quality management system. However, pursuant to UKAS Technical Bulletin BS EN 13501 & BR 135 Classification Documents (Dated 02-Feb-2022), classification documents are completed on an unaccredited basis because they are not themselves test procedures. As such, this document is prepared on an unaccredited basis.

This report and all records of the test to which it relates may be not be retained by TBWIC further than 5 years from the date of testing.

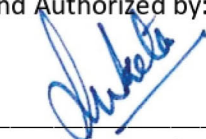
This test report is respectfully submitted by: Thomas Bell-Wright International Consultants

Prepared by:

Reviewed and Authorized by:


Malak Megly
Junior Fire Testing Engineer




Suketa Tyagi
Manager – Reaction to Fire

Report Revision Tracking		
Report Reference	Date Issued	Notes & Amendments
Rev. 00	19-Jun-23	This is the first issue of the report. No revisions are included.

9. ANNEXURE A

Classes of reaction to fire performance for construction products excluding floorings and linear pipe thermal insulation products

Class	Test method(s)	Classification criteria	Additional classification
A1	EN ISO 1182 ^a and	$\Delta T \leq 30^\circ\text{C}$; and $\Delta m \leq 50\%$; and $t_f = 0$ (i.e. no sustained flaming)	-
	EN ISO 1716	$PCS \leq 2,0 \text{ MJ/kg}$ ^a and $PCS \leq 2,0 \text{ MJ/kg}$ ^{b,c} and $PCS \leq 1,4 \text{ MJ/m}^2$ ^d and $PCS \leq 2,0 \text{ MJ/kg}$ ^e	-
A2	EN ISO 1182 ^a or	$\Delta T \leq 50^\circ\text{C}$; and $\Delta m \leq 50\%$; and $t_f \leq 20 \text{ s}$	-
	EN ISO 1716 and	$PCS \leq 3,0 \text{ MJ/kg}$ ^a and $PCS \leq 4,0 \text{ MJ/m}^2$ ^b and $PCS \leq 4,0 \text{ MJ/m}^2$ ^d and $PCS \leq 3,0 \text{ MJ/kg}$ ^e	-
	EN 13823	$FIGRA \leq 120 \text{ W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7,5 \text{ MJ}$	Smoke production ^f and Flaming droplets/particles ^g
B	EN 13823 and	$FIGRA \leq 120 \text{ W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 7,5 \text{ MJ}$	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ : Exposure = 30 s	$F_s \leq 150 \text{ mm}$ within 60 s	
C	EN 13823 and	$FIGRA \leq 250 \text{ W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600s} \leq 15 \text{ MJ}$	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ : Exposure = 30 s	$F_s \leq 150 \text{ mm}$ within 60 s	
D	EN 13823 and	$FIGRA \leq 750 \text{ W/s}$	Smoke production ^f and Flaming droplets/particles ^g
	EN ISO 11925-2 ⁱ : Exposure = 30 s	$F_s \leq 150 \text{ mm}$ within 60 s	
E	EN ISO 11925-2 ⁱ : Exposure = 15 s	$F_s \leq 150 \text{ mm}$ within 20 s	Flaming droplets/particles ^h
F	EN ISO 11925-2 ⁱ : Exposure = 15 s	$F_s > 150 \text{ mm}$ within 20 s	-

^a For homogeneous products and substantial components of non-homogeneous products.

^b For any external non-substantial component of non-homogeneous products.

^c Alternatively, any external non-substantial component having a $PCS \leq 2,0 \text{ MJ/m}^2$, provided that the product satisfies the following criteria of EN 13823: $FIGRA \leq 20 \text{ W/s}$, and $LFS < \text{edge of specimen}$, and $THR_{600s} \leq 4,0 \text{ MJ}$, and $s1$, and $d0$.

^d For any internal non-substantial component of non-homogeneous products.

^e For the product as a whole.

^f In the last phase of the development of the test procedure, modifications of the smoke measurement system have been introduced, the effect of which needs further investigation. This may result in a modification of the limit values and/or parameters for the evaluation of the smoke production.
S1 = SMOGRA $\leq 30 \text{ m}^2/\text{s}^2$ and $TSP_{600s} \leq 50 \text{ m}^2$; **s2** = SMOGRA $\leq 180 \text{ m}^2/\text{s}^2$ and $TSP_{600s} \leq 200 \text{ m}^2$; **s3** = not s1 or s2

^g **d0** = No flaming droplets/ particles in EN 13823 within 600 s;

d1 = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s;

d2 = not d0 or d1.

Ignition of the paper in EN ISO 11925-2 results in a d2 classification.

^h Pass = no ignition of the paper (no classification);

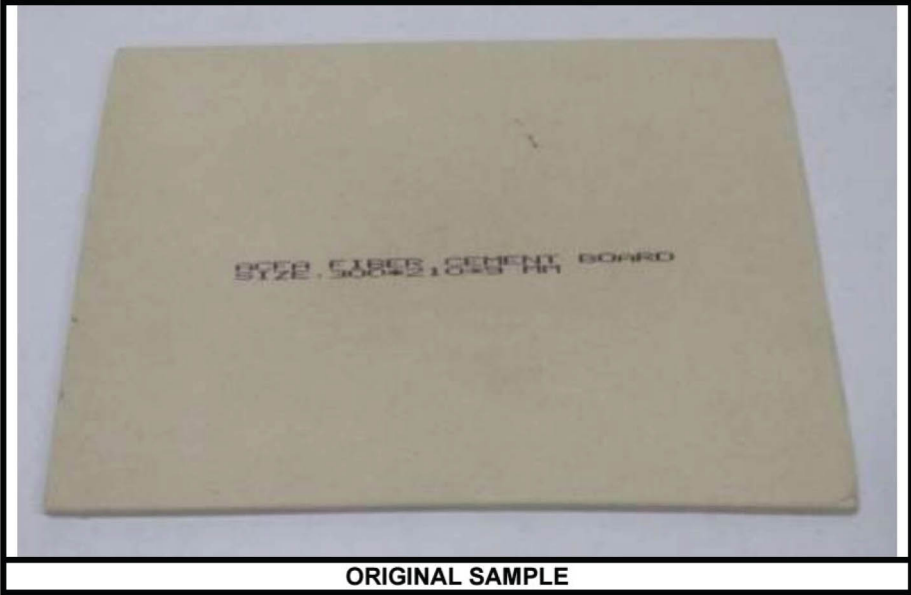
Fail = ignition of the paper (d2 classification).

ⁱ Under conditions of surface flame attack and, if appropriate to the end-use application of the product, edge flame attack.

----- End of Classification Report -----

TEST REPORT

NUMBER : DELH22004648
DATE: : 26TH MAY, 2022



ORIGINAL SAMPLE



TEST REPORT

NUMBER : DELH22004648
DATE: : 26TH MAY, 2022

APPLICANT: ACFA BUILDING SOLUTIONS
16 SAUD BUILDING, A1 YASMEEN
KING ABDULAZIZ ROAD, RIYADH, KINGDOM OF SAUDI ARABIA

ATTN: Mr. SUBRATA DUTTA

SAMPLE DESCRIPTION: FIBER CEMENT BOARD

DATE RECEIVED : 09TH APRIL, 2022
BUYER'S NAME : --
BUYING AGENT/ CONTACT : --
ORDER NO. : --
ITEM NO. : --
STYLE NO. : --
COLOR : --
END USE : --
MANUFACTURER'S NAME : --
COUNTRY OF DESTINATION : --
MANUFACTURER'S NAME : --

TESTS CONDUCTED:AS PER THE REQUEST BY THE APPLICANT.
ASBESTOS CONTENT
FOR FURTHER DETAILS PLEASE REFER TO THE ENCLOSED PAGE (S).

CONCLUSION:

TESTED SAMPLE	TEST PARAMETERS/STANDARD	RESULT
SUBMITTED SAMPLE	ASBESTOS CONTENT	Refer Data

NOTE: M = MEET CLIENT'S REQUIREMENT F = BELOW CLIENT'S REQUIREMENT
= NO SPECIFIED REQUIREMENT N/A = NOT APPLICABLE

AUTHORIZED BY
FOR INTERTEK INDIA PVT. LTD.

Pradeep Negi

PRADEEP SINGH NEGI
DEPUTY MANAGER -HARDLINE



TEST REPORT

NUMBER : DELH22004648
DATE: : 26TH MAY, 2022

TEST CONDUCTED: -

ASBESTOS CONTENT:

The following sample was examined using Low Powered Stereomicroscopy followed by ‘Polarised Light Microscopy’ including Dispersion Staining Techniques.

The following result applies to the sample as received.

TESTED SAMPLE	SAMPLE SIZE (G)	RESULT
Submitted Sample	476.2 g	Asbestos Not detected, Organic fibres detected.

END OF TEST REPORT

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or willful misconduct.







This Certificate has been awarded to

We Do Not Sell, We Certify!

ACFA INDUSTRIAL COMPANY FOR INDUSTRY

16 Saud Building, Al Yasmeen District., King Abdul Aziz Street, Riyadh,
P.O Box 15132, Riyadh 11444, Kingdom of Saudi Arabia

In recognition of the organization's Management System
which complies with

ISO 14001:2015
(Environmental Management System)

The scope of activities covered by this certificate is defined below

Quarry Operation, Operation of Sand or Grit Mines includes Crushers, Manufacture of Hollow Cement Blocks and Bricks, Manufacture of Building Materials Produced from Plant Materials and Agglomerated by Gypsum, General Construction of Government Buildings, Construction of Prefabricated Buildings on Sites and Construction of Bridges and Tunnels.

EA Code:- 28

SYNDICATE OF INTERNATIONAL SYSTEM CERTIFICATIONS

Certificate Number: **SIS230423E018**

Date of Issue of Original Certificate: **06.04.2023**

Date of Issue of Latest Certificate: **06.04.2023**

Expiry Date: **05.04.2024**

Re-certification Due on: **06.03.2026**

Managing Director



Issue No: 01

Note: This certificate is valid only if produced with the continuation letter after the surveillance is carried out successfully.

The Organization's documentation and Implementation has been reviewed and found to comply with the relevant standard rules. This certificate of Registration is based on the evaluation of the mentioned scope given above. Organization is responsible for maintaining the responsibilities of the relevant standard rules. Any significant changes in the scope of the certification or standard referred above render this certificate invalid. This is an accredited certificate issued by SIS Certifications Pvt. Ltd. sanctioned for issue by International Accreditation Services, 3060 Saturn Street Suite 100 Brea, California 92821-1732, USA.

Email us: support@siscertifications.com, Web: www.siscertifications.com
International office(SIS): Office 203, Building No. 256, Road 2705, Block 327, Manama Adliya, Bahrain.



Management Systems
Certification Body
MSCB-131



This Certificate has been awarded to

We Do Not Sell, We Certify!

ACFA INDUSTRIAL COMPANY FOR INDUSTRY

16 Saud Building, Al Yasmeen District., King Abdul Aziz Street, Riyadh,
P.O Box 15132, Riyadh 11444, Kingdom of Saudi Arabia

In recognition of the organization's Management System
which complies with

ISO 45001:2018
(Occupational Health & Safety Management System)

The scope of activities covered by this certificate is defined below

Quarry Operation, Operation of Sand or Grit Mines includes Crushers, Manufacture of Hollow Cement Blocks and Bricks, Manufacture of Building Materials Produced from Plant Materials and Agglomerated by Gypsum, General Construction of Government Buildings, Construction of Prefabricated Buildings on Sites and Construction of Bridges and Tunnels.

EA Code:- 28

SYNDICATE OF INTERNATIONAL SYSTEM CERTIFICATIONS

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Managing Director



Issue No: 01

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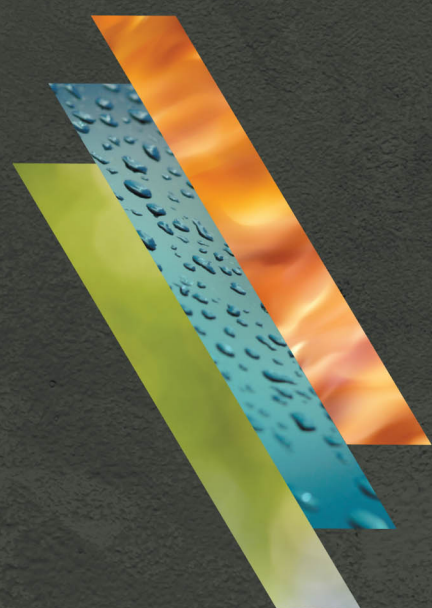
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Email us: support@siscertifications.com, Web: www.siscertifications.com
International office(SIS): Office 203, Building No. 256, Road 2705, Block 327, Manama Adliya, Bahrain.



Management Systems
Certification Body
MSCB-131





Project Approvals



		ABDULELAH AL-MOHANNA PLANNERS - ARCHITECTS - ENGINEERS	
		ALMURABBA TOWERS	
		شركة تكامل العزل للتجارة والمقاولات والعقارات Takami Alazel Company for Trading, Contracting & Real Estate	
Technical Document Submittal			
ST		Elec	
Date : 7/4/2022		Submittal No: 036 - R1	
* Code & Type to be entered by Alfara'a Arabia		Code to be entered by constant	
SD: Shop Drawings	TT: Tests	Action	CODE **
MD: Manufacturer's Data	CT: Certificates	Approved	A
AB: As Built Drawings	PQ: Prequalification	Approved As Noted	B
MS: Method Statement	OT: Others	Revise And Resubmit	C
SM: Samples		Not Approved	D
GT: Guarantees		Retained For Info.	I
S/No.	Specification Ref. #	Description	Manufacturer / Supplier
1		اعتماد عينة قواطع سيمنت بورد سمك 12 , 15 مم	شركة أكفا
TECHNICAL MANAGER:		PROJECT MANAGER:	
Signature : _____ Date : _____		Signature : _____ Date : _____	
Consultant to enter Action Codes and Remarks, and return to Contractor			
Remarks by Consultant			
<p>لدينا مع طبعاً للمرفوع على مخرجات المقاول (شركة تكامل العزل) على أنه يتبع الإفادة في حال توافر الزوايا مع المورد الرئيسي (مدى)</p> <p>9/4/22 -B</p>			
For Consultant:		Received By:	
Signature: _____ Date : _____		Signature: _____ Date : _____	
For Client:		Send By :	
Signature: _____ Date : _____		Signature: _____ Date : _____	

10-4-2022



		ABDULELAH AL-MOHANNA PLANNERS - ARCHITECTS - ENGINEERS	
		ALMURABBA TOWERS	
		شركة تكامل العزل للتجارة والمقاولات والعقارات Takami Alazel Company for Trading, Contracting & Real Estate	
Technical Document Submittal			
ST		Elec	
Date : 7/4/2022		Submittal No: 036 - R1	
* Code & Type to be entered by Alfara'a Arabia		Code to be entered by constant	
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MS: Method Statement	OT: Others	Revise And Resubmit	C
SM: Samples		Not Approved	D
GT: Guarantees		Retained For Info.	I
S/No.	Specification Ref. #	Description	Manufacturer / Supplier
1		اعتماد عينة قواطع سيمنت بورد سمك 12 , 15 مم	شركة أكفا
TECHNICAL MANAGER:		PROJECT MANAGER:	
Signature : _____ Date : _____		Signature : _____ Date : _____	
Consultant to enter Action Codes and Remarks, and return to Contractor			
Remarks by Consultant			
<p>لدينا مع طبعاً للمرفوع على مخرجات المقاول (شركة تكامل العزل) على أنه يتبع الإفادة في حال توافر الزوايا مع المورد الرئيسي (مدى)</p> <p>9/4/22 -B</p>			
For Consultant:		Received By:	
Signature: _____ Date : _____		Signature: _____ Date : _____	
For Client:		Send By :	
Signature: _____ Date : _____		Signature: _____ Date : _____	

10-4-2022

المشروع السكني - Al-Majdiah Residence

Material Approval Request (MAR)

PROJECT No. 124 REF.No MJ-124-A-058 REQUEST DATE 21-Jun-22

CLIENT Al-Majdiah Residence CONTRACTOR Tashyeed for Contracting

Proposed Material Details (Prepared by Contractor)

Civil ☐ Structural ☐ Architectural ☒ Mechanical ☐
Electrical ☐ HVAC ☐ Other ☐

Material Details

S.No	Manufacturer Name	Product Name	Cement Board
1	ACFA Building Solutions		

Address 1 Description Cement Board (240*120 Cm, 9mm Thickness) Rev No 0

Email: BOQ Item No:

Material/Product Technical Requirements

Attachment 1 ref: Data Sheet

Attachment 2 ref:

Attachment 3 ref:

Attachment 4 ref:

Attachment 5 ref:

Submitted By(Name) Submitted By(Signature)

Engineer Name: M.Omar Engineer Signature:

CLIENT REVIEW

Received By(Name) Received By(Signature) 21 JUN 2022

Comment(include attachment if necessary)

Status ☒ Approved ☐ Approved as noted ☐ Not Approved/Submit Again ☐ Rejected

Client Engineer Name: Client Engineer Signature: Date:

Client Representative Approval Signature: Date: 21 JUN 2022

14 Outer Regions
Riyadh, KSA
Riyadh
Saudi Arabia

NEOM - Engineering & Technical Services Dept
ITCC Complex, Al Raidah Digital City
Level 2, Building IN01
Riyadh
An Nakheel 12382 Saudi Arabia

MAIL TYPE
Workflow Transmittal

MAIL NUMBER
NEN-WTRAN-021964

REFERENCE NUMBER
NEN-WTRAN-021964

Final (WF-057338) 14-4800000322/000-IN-ETSD RQM - IFR (PQD)

From Rizwan Aziz - NEOM - Engineering & Technical Services Dept



To (3) Mr Yahia Hemida - AECOM (+2 more...)

Cc (7) Mr Ayman Negm - AECOM (+6 more...)

Sent Monday, 6 February 2023 10:02:34 AM AST (GMT +03:00)

Status N/A

DOCUMENT ATTACHMENTS (2)

(0 selected)					
File	Document No	Revision	Revision Date	Title	Status
	14-662000-4800000322-MOB-ARC-CRS-000171	03	26/01/2023	4800000322/000 - Pre-qualification Of ACFA Board for Cement Board.	A - Work May Proceed
	14-662000-4800000322-MOB-ARC-PQD-000027	03	26/01/2023	4800000322/000 - Pre-qualification Of ACFA Board for Cement Board.	A - Work May Proceed

MESSAGE

Workflow Review History

The attached documents have completed the "14-4800000322/000-IN-ETSD RQM - IFR (PQD)" workflow with the following results :

This transmittal was automatically generated.

Doc No	Step	Participant	Review Outcome	Comments
14-662000-4800000322-MOB-ARC-PQD-000027	NEOM/AECOM_Review	Y Hemida	A - Work May Proceed	Refer to comments on uploaded CRS file.
	NEOM/ETSD_Review	R Aziz	E - Review Not Required - Proceed	Cement board is non-critical material.