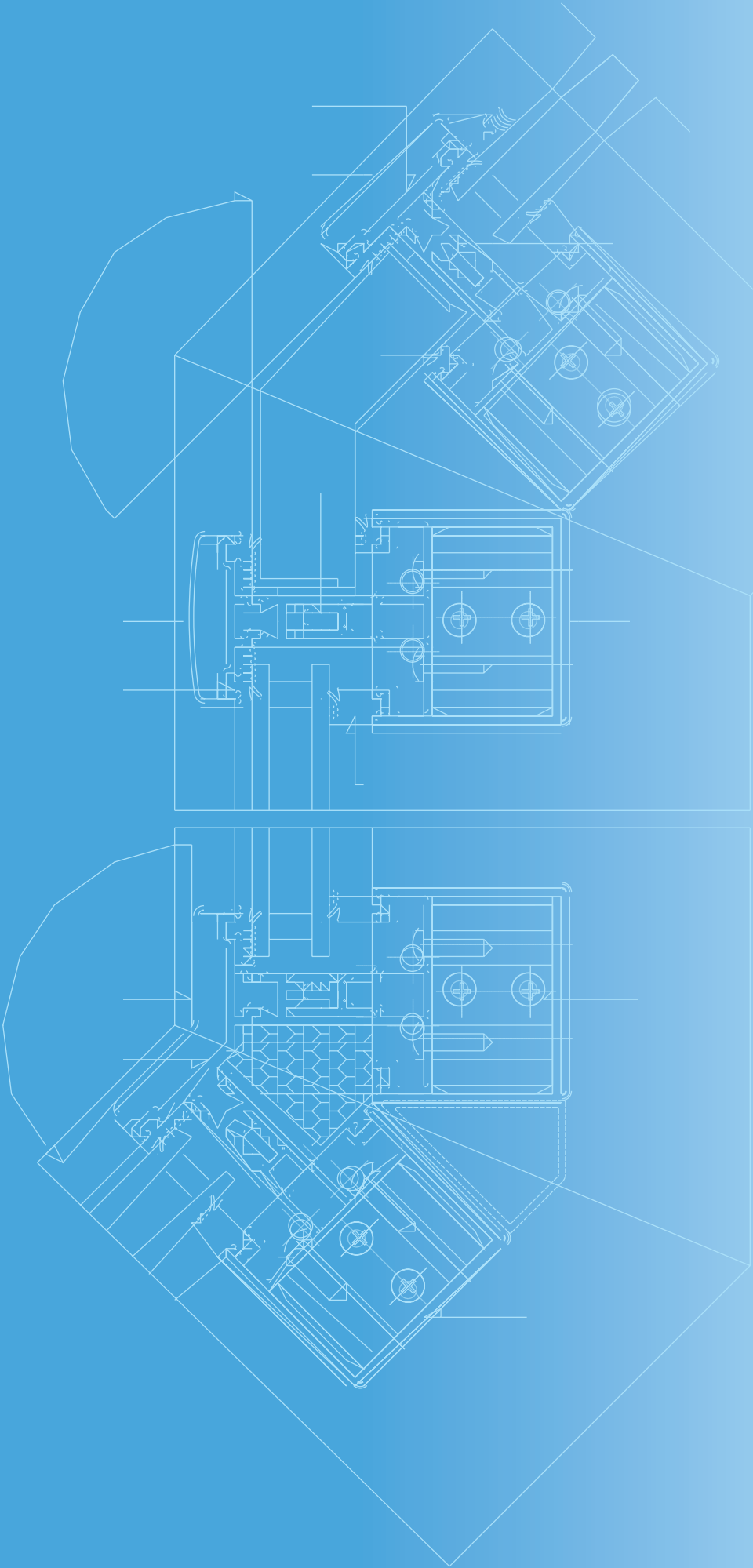




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BALEXCO: Committed to Beauty, Quality and Customer's Satisfaction

Bahrain Aluminium Extrusion Company, Balexco, since its inception of operation in 1977 till date, remains as an outstanding company in the manufacturing of aluminium extrusion. Currently its production has reached a record 24,000 mt annually. Its products are exported to many markets in GCC.

It's a matter of pride for Balexco that the clients of the company are aware that Balexco as in the past, is still committed to manufacture high quality products, which is a result of its investment in modern technologies and the constant up-grading of its Human resources in their competence and expertise in administration and technical skills.

Herewith, Balexco presents to you one of the best designed Curtain Wall System-Balexco 60, which contains package of profiles suiting the different sizes and heights of buildings.

Balexco 60 represents the capability of Balexco design and creation. It's a sample of Technical production with multi advantages, in addition to high quality and flexibility in its construction use.

This system is owned by Balexco and is registered as an intellectual industrial right for the company, beside Balexco 45 and Balexco 100.

It's with great honor that we present this system to all clients with an assurance of its high capability and availability of its accessories. Balexco shall be pleased to extend their technical support to provide their intense support to all clients.

Jassim Mohamed Seyadi
General Manager



الالتزام بالجودة والجودة

إن شركة البحرين لسحب الألمنيوم (بلكسكو) منذ أن بدأت عملياتها في ١٩٧٧ وحتى الآن ظلت شركة رائدة في مجال صناعة الألمنيوم. وهي الآن تنتج ما يعادل ٢٤٠٠٠ طن سنويا حيث تصدر هذه المنتجات إلى العديد من الأسواق.

إن المتعاملين مع الشركة يعرفون بأن بلكسكو كانت ولا زالت شديدة الالتزام بتصنيع منتجات عالية الجودة ، وذلك نتيجة استثمارها في أحدث التقنيات، بالإضافة إلى اهتمامها بالموارد البشرية المدربة ذات الكفاءات الفنية والإدارية العالية.

إن بلكسكو تقدم لكم واحدا من أحدث ابتكاراتها وتصميماتها، وهو نظام (بلكسكو ٦٠) الذي يشمل مجموعة من المقاطع المخصصة لواجهات المباني بمختلف مساحاتها وارتفاعاتها.

إن نظام (بلكسكو ٦٠) هو تجسيد لخبرة بلكسكو في الابتكار والتصميم. وهو مثال للمنتجات الفنية ذات المميزات المتنوعة، هذا بجانب تمتعه بالكفاءة العالية والمرونة في الاستعمالات المعمارية.

إن هذا النظام خاص بالشركة ومسجل بإسمها في سجل الحماية الفكرية الصناعية، بالإضافة إلى نظم بلكسكو الأخرى (بلكسكو ٤٥ وبلكسكو ١٠٠).

إننا نعتز كثيرا بتقديم هذا النظام لجميع أسواقنا ولكل من يحتاجه من زبائننا. ونحن نؤكد بأن هذا النظام يتمتع بكفاءة عالية ، واكسسواراته متوفرة . كما أن بلكسكو من خلال فريق خدماتها للدعم الفني على استعداد تام لتقديم أي دعم أو مشورة للجميع.

جاسم محمد سيادي
المدير العام

Company Profile

نبذة عن الشركة



Historical Information about Bahrain Aluminum Extrusion Company (Balexco)

Bahrain Aluminum Extrusion Company BSC (Balexco) was established in 1977 as the first aluminum extrusion plant in the Arabian Gulf.

Its main objective was to add value to the primary aluminum produced by Aluminum Bahrain (ALBA). Balexco commenced operations with one extrusion press and one anodizing line mainly targeted to meet the demands of the building industry in the Gulf.

Over the Years, Balexco has tripled its capacity and expanded into markets in the GCC, Middle East, Europe and Asia. Balexco now exports some 80% of its output to over 15 countries including the GCC, Germany, France, United Kingdom, Australia, Lebanon and Yemen.

Consumption of aluminum globally has been increasing in various industrial applications due to its main characteristics which are as follows:

- **Light weight**
- **Corrosion – Resistant, when painted**
- **Ability to accommodate a variety of surface finishes and durability.**
- **Ease of machining into desired shapes.**

To meet these challenges, Balexco has invested in state-of-the-art manufacturing technology which has been fully integrated into a modern plant.

Balexco is proud to launch it's new product Balexco 60, which it's types, usage & specification are included in this book.

المعلومات التاريخية عن شركة البحرين لسحب الألمنيوم (بلكسكو)

شركة البحرين لسحب الألمنيوم (بلكسكو) ش.م.ب. بدأ انتاجها في عام ١٩٧٧ كأول شركة من نوعها لسحب الألمنيوم في منطقة الخليج العربي. وكان الغرض الأساسي عند إنشاء الشركة هو تعزيز قيمة منتجات الألمنيوم الأولية التي تصنعها شركة ألمنيوم البحرين (ألبا).

بدأت الشركة بداية متواضعة باستخدام مكبس واحد وخط للمعالجة الأنودية واستهدفت أساساً تلبية جزء من متطلبات قطاع الإنشاءات في منطقة الخليج. وقد تمكنت الشركة مؤخراً من زيادة طاقتها الإنتاجية بمعدل ثلاثة أضعاف، وارتفعت حصتها في أسواقها المنتشرة في دول مجلس التعاون الخليجي والشرق الأوسط وأوروبا وآسيا. وفي الوقت الحاضر تقوم بلكسكو بتصدير نحو ٨٠٪ من انتاجها إلى أكثر من ١٥ دولة .

والجدير بالذكر أن معدلات استهلاك الألمنيوم شهدت ارتفاعاً متواصلاً على مستوى العالم في مختلف الاستخدامات الصناعية ، وتعود هذه الزيادة إلى الخصائص الهامة التي يتميز بها الألمنيوم والتي أهمها:

- خفة الوزن
- مقاومة الصدأ أو التآكل عن طلائه
- إمكانية طائه بمجموعة متنوعة من الطلاءات وبعدة خيارات وهو قوي التحمل بدرجة عالية.
- سهولة تشكيله حسب التصميم المطلوبة.

ولتلبية احتياجات وطلبات أسواقها وزبائنها استثمرت بلكسكو في أحدث تقنيات التصنيع المتطورة، وأصبحت تفخر بأن لديها الآن خطوط انتاج متكاملة وحديثة بكل المقاييس.

وتفخر الشركة بأن تقدم لعملائها وأسواقها منتجاتها الجديد (بلكسكو ٦٠) التي يحتوي هذا الدليل على مميزاته وأشكاله واستعمالاته.

Expansion Plans

Balexco's aim is to provide the best aluminium extrusions which suit the systems for windows and Doors in the construction industry apart from various other applications in the industrial sector.

As an initial step into the future Balexco had initiated & has been the leader in development of Balexco sliding 100 series and casement 45 series. Besides the different types of curtain wall systems in Balexco 60 are the latest in the list of ever growing developments of new products in the organization.

With a view to meet the increased demand of a variety of products and market requirements in special finishes, Balexco is expanding the anodizing line & is being upgraded with additional capacity into a most modern line. This will enable the organization supply material in short lead time.

There are plans to increase the number of extrusion lines to four from the existing three thereby enhancing the manufacturing capacity of Balexco. Refurbishment & enhancement of the capacity of Powder coating line also at a later stage has been planned.

Therefore Balexco is consistently making steady progress, into the future by expansions & investments that are being made in a phased manner to meet the requirements of all the customers thereby providing peace of mind and happiness with all the products.

Architectural System

النظام المعماري

Balexco offers a wide range of architectural systems, including Balexco 60, for high rise buildings and facades:

1. Comfort : Tested for:

- Water resistance
- Air Permeability
- Thermal insulation panels is also available when required.

2. Style:

- Product is elegantly designed.
- Product is available in various designs and options to complement one's interior décor.

3. Durability:

- Product is made of best quality accessories and Gaskets (E.P.D.M.)

4. Peace of mind:

- Product is produced to the most rigid quality standards.

Specialists from Balexco provide advice and assistance to Consulting Offices, Architects, Investors and Fabricators, enabling them to use Balexco products in accordance with their requirements. Continuous innovation ensures that Balexco products are up-to-date with the latest trends.

توفر بلكسكو مجموعة واسعة من منتجات الألمنيوم المعمارية التي من ضمنها النظام المعماري من فئة (بلكسكو ٦٠) ذو المميزات والجودة الفائقة . ويتم استخدام النظام في جميع المباني والواجهات الزجاجية حيث صمم ليوفر المميزات التالية:

١. الراحة : لقد تم فحصه للتأكد من مطابقته لأعلى المقاييس العالمية من حيث:

- منع تسرب المياه.
- منع تسرب الهواء.
- تقليل الضوضاء باستخدام الزجاج المزدوج.
- الحماية من الحرارة.

٢. المظهر:

- إمكانية تصميمه بشكل جميل وأنيق.

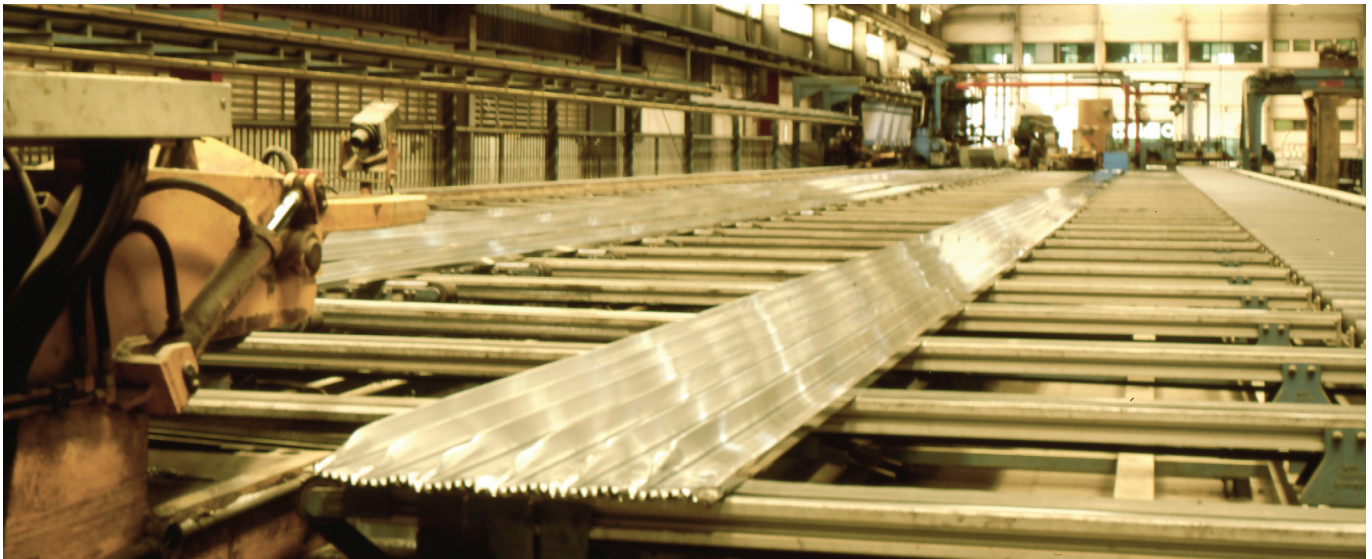
٣. الديكور الداخلي:

- يتوفر هذا المنتج بتشكيله متنوعة من الخيارات المعمارية لتناسب مع الديكورات الداخلية للمباني والمكاتب.

٤. سهولة التصنيع:

- هذا المنتج يستخدم إضافات عالية الجودة وطويلة الأجل وسهلة التركيب.

إن أخصائيو بلكسكو سيقدمون المشورة والمساعدة لأصحاب العقارات والمكاتب الهندسية ولورش فبركة الألمنيوم لكي تتناسب هذه المنتجات مع متطلباتهم العديدة. إن الابتكار المستمر لتصميم منتجات بلكسكو على أحدث طراز وبخصائص أداء عالية يجعل من هذه المنتجات متماشية مع أحدث التطورات في هذا المجال.



BSi

Test Certificates Quality & Standards Wind Load Resistance



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Huwait Institute for Scientific Research



معهد الكويت للأبحاث العلمية

Client	Balexco
Sample	Curtain Wall (300 cm X 250 cm) Balexco 60 Profile drawing attached
Test Requested	Air infiltration Test Water Infiltration Test Rate of Deflection Test

The results reported in this report related to the samples submitted by the client and to no other

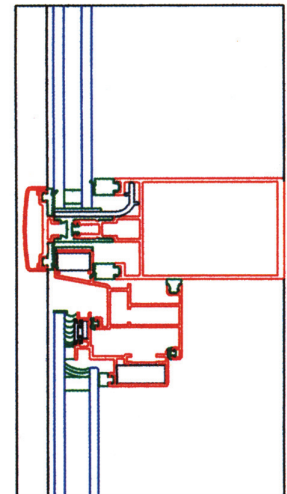
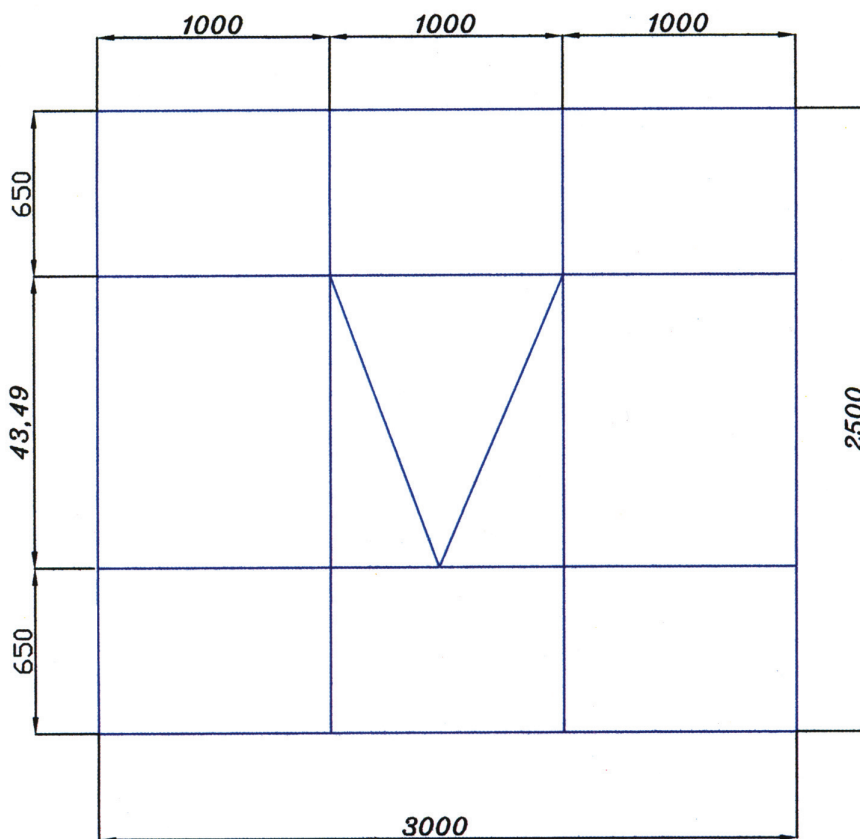
Pressure Pa	Pressure Kg / m ³	Water Leakage Observed	Rate of Deflection mm @ Center Point in mm	Air Infiltration m ³ / hr / lin.m*
0	0	None	0	0
50	5.10	None	0	0.29
100	10.20	None	0	0.42
150	15.31	None	0	0.51
200	20.41	None	0	0.61
300	30.61	None	0	0.74
400	40.82	None	0.04	0.90
500	51.02	None	0.06	1.08
600	61.22	None	0.47	1.26

* Lin.m : Linear Meter

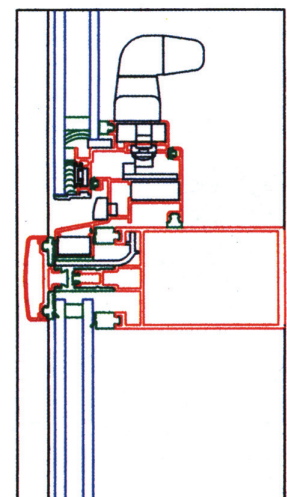
Water Infiltration Test

Water was applied at a rate of 3.51 / m².min for 15 min at pressures given above.

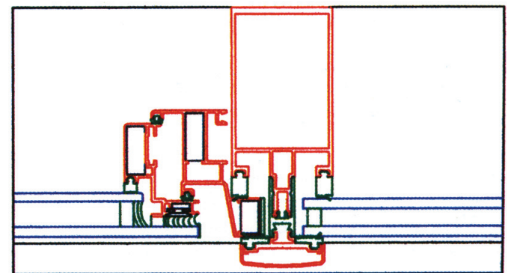
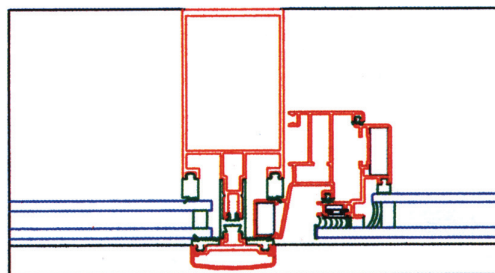
CONVENTIONAL SYSTEM



GLASS 6-15-6



GLASS 6-12-6



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Huwait Institute for Scientific Research



معهد الكويت للأبحاث العلمية

Client Balexco

Sample Curtain Wall (300 cm X 250 cm)
Balexco 60
Profile drawing attached

Test Requested Air infiltration Test
Water Infiltration Test
Rate of Deflection Test

The results reported in this report related to the samples submitted by the client and to no other

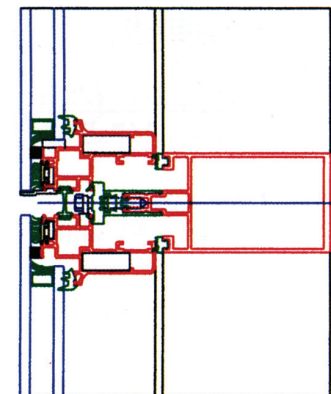
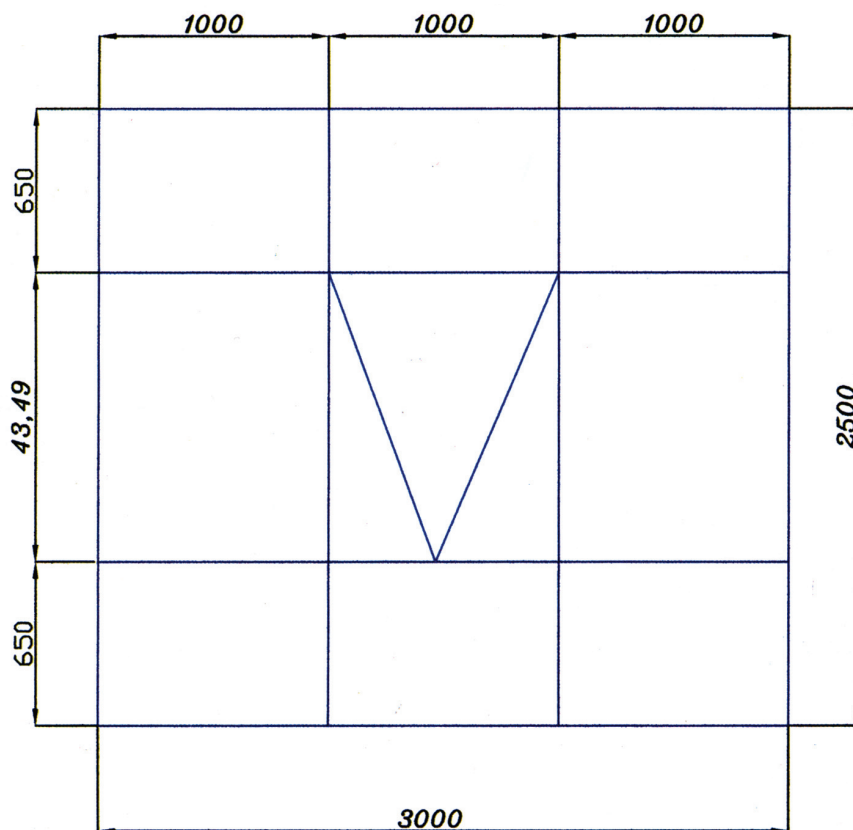
Pressure Pa	Pressure Kg / m ³	Water Leakage Observed	Rate of Deflection mm @ Center Point in mm	Air Infiltration m ³ / hr / lin.m*
0	0	None	0	0
50	5.10	None	0	0.70
100	10.20	None	0	0.94
150	15.31	None	0	1.12
200	20.41	None	0	1.30
300	30.61	None	0	1.55
400	40.82	None	0	1.81
500	51.02	None	0	2.09
600	61.22	None	0	2.24

* Lin.m : Linear Meter

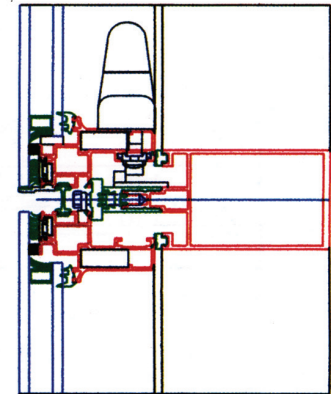
Water Infiltration Test

Water was applied at a rate of 3.51 / m².min for 15 min at pressures given above.

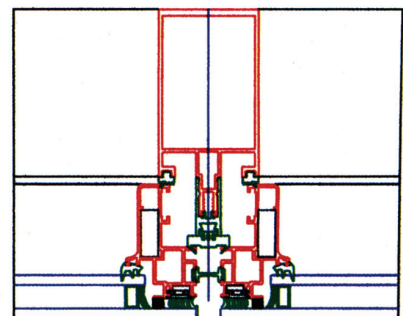
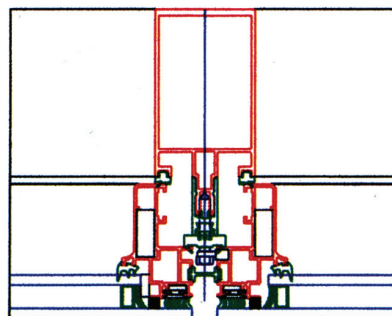
STRUCTURAL GLAZING SYSTEM



GLASS 6-15-6



GLASS 6-15-6



PRODUCT SPECIFICATIONS

3.1.4 Dimensions and Shapes

Dimension tolerances are divided into two categories as mentioned below :

Category I:

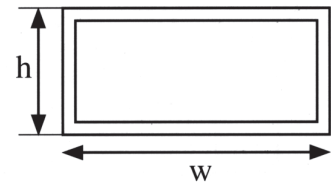
Standard Dimensional Tolerances

(DIN 1748, Part 4, Standard)

Dimensions

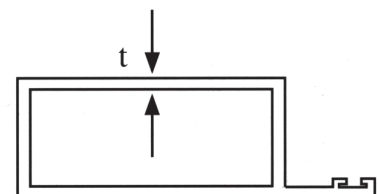
(Width (W) and Height (h)) - mm

Over	To	Tolerance
		±
-	10	0.3
10	15	0.4
15	30	0.5
30	50	0.6
50	80	0.7
80	100	0.8
100	120	1.0
120	150	1.2
150	180	1.5
180	240	1.9



Wall Thickness (t) mm

Over	To	Tolerance
		±
-	1.5	0.20
1.5	3	0.25
3	6	0.30
6	10	0.35
10	15	0.40
15	20	0.50
20	30	0.60



PRODUCT SPECIFICATIONS

Concavity/Convexity (E) mm

Solid Sections

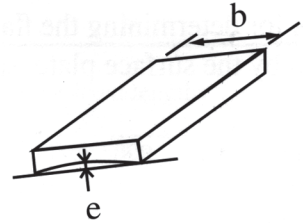
$$: e = 0.005 \times b$$

(minimum 0.20 mm)

Hollow Sections

$$: e = 0.01 \times b$$

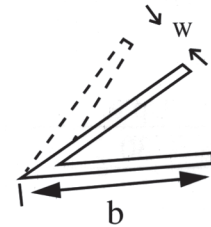
(minimum 0.30 mm)



Angularity (W)

- Being the deviation from the given angle.

Angular tolerances for extruded regular sections.		
Nominal Thickness of thinnest leg.		Allowable deviation from angle specified (measured at the extremities of the section)
Over	Upto and including	
mm	mm	±
-	1.6	1½°
1.6	5.0	1½°
5.0	-	1°



PRODUCT SPECIFICATIONS

Flatness Tolerance (Torsion/Twist - mm)

The basis for determining the flatness tolerance b according to table 8 is width b of the profile supported by the surface plate, see figure A.

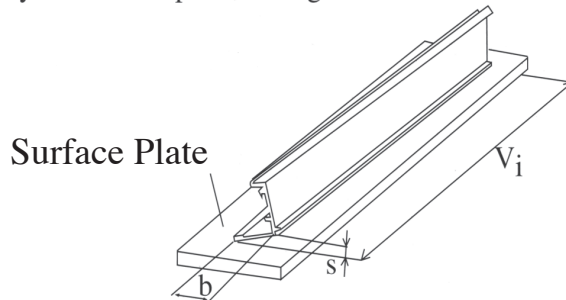
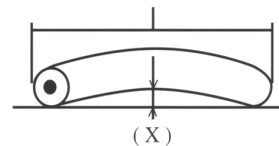


Figure A.

Table 8. Flatness tolerance

Width b		Normal-straightened (N) Total Profile Length V_i		
Over	Up to	per 1000	upto max. 6000	over 6000
-	30	1.2	2.5	3.0
30	50	1.5	3.0	4.0
50	100	2.0	3.5	5.0
100	200	2.5	5.0	7.0
200	300	2.5	6.0	8.0
300	450	3.0	8.0	1.5 x l
450	600	3.5	9.0	(l in m)

Bow - mm



No single deviation per 300 mm shall exceed 0.3mm

Length of section in M	Up to 1	Over 1 Up to 2	Over 2 Up to 3	Over 3 Up to 4	Over 4 Up to 5	Over 5 Up to 6	Over 6 Up to 7	Over 7
Tolerance in mm "X"	1	4	6	7	8	9	12	Subject to agreement

PRODUCT SPECIFICATIONS

Fixed Length (sawn length/mm)

The tolerance also includes the angle in case the saw blade is out of the 90° angle.
Permissible dimensional deviations for fixed lengths.

Diameter of circumscribing circle d_u		Permissible dimensional deviations for fixed lengths				
Over	Up to	Up to 1000	Over 1000 Up to 2000	Over 2000 Up to 5000	Over 5000 Up to 8000	Over 8000
-	25	+2 0	+3 0	+5 0	+7 0	+10 0
25	50	+3 0	+4 0	+6 0	+7 0	+12 0
50	100	+4 0	+5 0	+7 0	+8 0	+14 0
100	250	+5 0	+6 0	+8 0	+10 0	+16 0
250	600	+8 0	+8 0	+10 0	+12 0	+20 0

3. Category II:

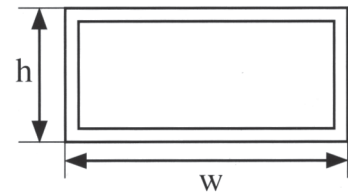
Special Dimensional Tolerances

DIN 17615, Part 3 Standard

Dimensions

(Width (W) and Height (h)) - mm

Over	To	Tolerance
		$\pm$
-	10	0.15
10	15	0.20
15	30	0.25
30	45	0.30
45	60	0.40
60	90	0.45
90	120	0.60
120	150	0.80
150	180	1.00
180	240	1.20



PRODUCT SPECIFICATIONS

Wall Thickness (t) mm

Over	To	Tolerance
		±
-	1.5	0.15
1.5	3	0.20
3	6	0.25
6	10	0.30
10	15	0.40
15	20	0.50
20	30	0.60
30	40	0.70

Concavity/Convexity (e) mm

Width, b		Concavity/ Convexity
Over	Up to	
		±
-	40	0.20
40	60	0.30
60	90	0.40
90	120	0.45
120	150	0.55
150	180	0.65
180	210	0.70
210	240	0.75

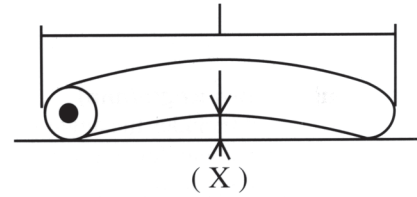
Angularity (W) The values of angularity tolerance

Angular tolerances for extruded regular sections.		
Nominal Thickness of thinnest leg.		Allowable deviation from angle specified (measured at the extremities of the section)
Over	Upto and including	
mm	mm	±
-	1.6	1°
1.6	5.0	1½°
5.0	-	1°

PRODUCT SPECIFICATIONS

Bow - mm

No single deviation per 300 mm shall exceed 0.3mm



Length of section in M	Up to 1	Up to 2	Up to 3	Up to 4	Up to 5	Up to 6	Over 6
Tolerance in mm " X "	0.7	1.3	1.8	2.2	2.6	3.0	3.5

Tolerance on twist

Width, b		Tolerance on twist for lengths $\pm V_i$						
Over	Up to	- Up to 1000	Over 1000 Up to 2000	Over 2000 Up to 3000	Over 3000 Up to 4000	Over 4000 Up to 5000	Over 5000 Up to 6000	Over 6000 -
-	25	1.0	1.5	1.5	2.0	2.0	2.0	To be Agreed
25	50	1.0	1.2	1.5	1.8	2.0	2.0	
50	75	1.0	1.2	1.2	1.5	2.0	2.0	
75	100	1.0	1.2	1.5	2.0	2.2	2.5	
100	125	1.0	1.5	1.8	2.2	2.5	3.0	
125	150	1.2	1.5	1.8	2.2	2.5	3.0	
150	200	1.5	1.8	2.2	2.6	3.0	3.5	
200	300	1.8	2.5	3.0	3.5	4.0	4.5	

For determining the tolerance on twist, the section shall be placed on a surface plate and size v_i measured; see figure B.

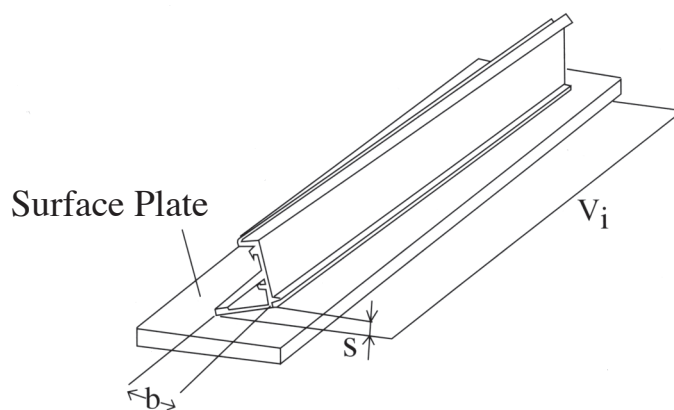


Figure B.

PRODUCT SPECIFICATIONS

Fixed Length (sawn length/mm)

The tolerance also includes the angle in case the saw blade is out of the 90° angle.
Permissible dimensional deviations for fixed lengths.

Diameter of smallest circumscribing circle d _u		Limit deviation for specified lengths, multiple lengths and underlengths			
Over	Up to	- Up to 1000	Over 1000 Up to 2000	Over 2000 Up to 5000	Over 5000 -
-	25	+2 0	+3 0	+5 0	+10 0
25	50	+3 0	+4 0	+6 0	+12 0
50	100	+4 0	+5 0	+7 0	+14 0
100	250	+5 0	+6 0	+8 0	+16 0
250	300	+8 0	+8 0	+10 0	+20 0

3.2 SCOPE : ANODISING STANDARDS

BALEXCO's Quality Specification is based on **International Standards**.

The specification in particular meets the requirement for architectural aluminium extrusions.

3.2.1 Surface Finish

Anodic film thickness are as follows:

CLASSIFICATION	MINIMUM THICKNESS
Class 16 / 18 Microns	16 Microns
Class 20 / 22 Microns	20 Microns
Class 23 / 25 Microns	23 Microns

3.2.2 Colour Variations

Colour variations for our colour anodised products are controlled within a permissible range of maximum and minimum limits of each shade.

PRODUCT SPECIFICATIONS

3.2.3 Finishes

Mill Finish.

Anodised: Gold Matt, Gold Brushed, Bronze Colinal Matt, Black Colinal Matt, Black Colinal Brushed. Gold is available in two shades No. 2 and No. 3, Bronze Colinal is available in 5 shades, Colinal No. 10 (light) and No. 17 (medium), 21 (medium), No. 30 (dark) and No. 40 (very dark).

Powder Coated: Wide Range of RAL painted polyester powder colours are available.

3.3 SCOPE : POWDER COATING STANDARDS:

The Balexco specification in particular meets the requirements for architectural aluminium extrusions. Regular quality checks are made during production to ensure high quality products as follows:

Gloss - Adhesion - Impact Resistance - Flexibility - Cupping.

Limits values for:

Gloss	Coat Thickness
65% to 84%	60 µm to 170 µm
Adhesion Cross Cut	No flaking 100% *
Impact	No crack *
Flexibility (Bend)	No crack *
Cupping	No Crack *

*When applied on test panel less than 1 mm thick, provided coat thickness is between 40 to 80) µm.

- When exceeding the maximum range, consideration must be given to the question of fit or possible problems with sliding components.

Authorization to use the quality sign



This is to certify that

Bahrain Aluminium Extrusion Company B.S.C.C. (BALEXCO)

Bldg. 267, road 105, block 601
BH - 1053 Sitra Industrial, Bahrain

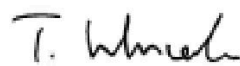
Licence number: 2200

is authorized to use the quality sign which is shown above according to the REGULATIONS FOR USE OF THE QUALANOD QUALITY LABEL FOR SULPHURIC ACID-BASED ANODIZING OF ALUMINIUM.

Date of issue of the licence: 08.09.2009
Period of validity of the licence: until 31.12.2013

Zurich, 7 December 2012

QUALANOD



Timur Ulucak
President

CERTIFICATION BODY



Josef Schoppig
AC-Fiduciaire SA



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Internet: www.qualanod.net



Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2008

This is to certify that:

**Bahrain Aluminium Extrusion Company
(Balexco)
PO BOX 1053
Manama
Bahrain**

Holds Certificate No: **FM 33839**

and operates a Quality Management System which complies with the requirements of ISO 9001:2008 for the following scope:

The Procurement and Processing of Aluminium, and Aluminium Alloys for Extruding, Heat Treatment, Anodising and Powder Coating to customer specifications.

For and on behalf of BSI:



Gary Fenton, Global Assurance Director

Originally registered: **09/04/1996**

Latest Issue: **27/09/2012**

Expiry Date: **08/10/2015**



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