

# Checklist extrusion profile approval drawings

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## Introduction

Extrusion companies don't make new tools (dies) without a signed approval drawing!

**The designer must compare the FlexLink drawing very thoroughly with this approval drawing. It's the designer who signs the drawing.**

If the approval drawing is missing any information, it shall be requested. Unclear information shall be checked with the supplier.

Approval drawings can be very different (see in the end of this document). Some companies, like *Alumac* in Malaysia, make very special ones.

When everything has been checked and the drawing has been signed it shall be uploaded to Coral as a *Related Document* to the L-cut item **and** the 3 m item (how to do it see below).

To consider: *Alumac* wants a FlexLink stamp and a hand-written signature. The drawing must be scanned afterwards.

## Structure of tables

Topic Specification number	Explanation what to do and to consider
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## General

Geometry of the profile CAD file	The supplier should send a CAD file (2D or 3D) which shall be compared against the FlexLink CAD model. All corners and edges should have radii. If they are not in the FlexLink CAD model, they shall be checked carefully if they can be accepted. If sharp edges are required, it must be checked if they are in the supplier files.
Aluminum alloy	Correct alloy and correct heat treatment e.g., EN AW 6060 T6.
Surface treatment 6742070	Normally <i>naturally anodized 10 µm</i>
Surface quality 6755766	Presence, class (A, B, C) and correct surfaces of the profile. Supplier quality classes shall be checked against FlexLink's quality classes if they are corresponding.

Supplier marking 3929528	<p>Check if it's the correct version (positive or negative) at the correct position.</p> <p>A list of the different supplier markings can be requested from the purchase department – it's owned by them.</p> <p>To consider when making markings for new suppliers: they should not be too wide to be able to place them on small beams. Also consider the functionality of the beam and its accessories when placing.</p>
Web marks	<p>Potential web marks (stripes with different anodization color / appearance if a perpendicular wall is connected to an outer wall) could be marked. These shall be checked as well.</p>

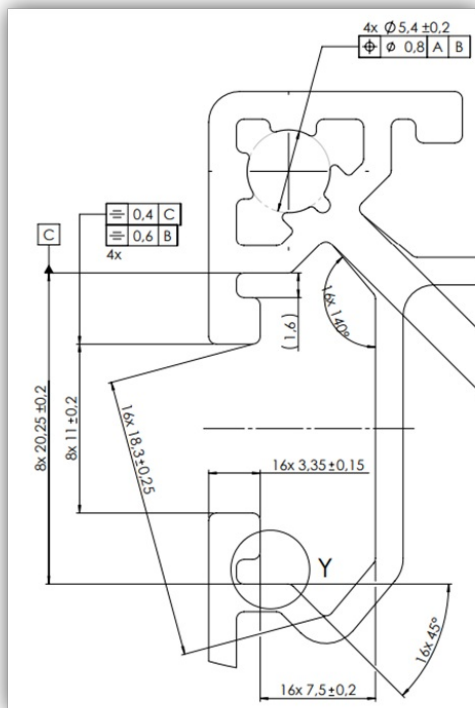
## Dimensions

General tolerances	<p>ISO 12020-2 should be stated on the drawing. Year of release should be considered. The latest version is from 2022.</p>
Special tolerances	<p>If the supplier states extra tolerances e.g., in the title block, these shall be checked carefully.</p> <p>If torsion, bending, wall thicknesses etc. are stated on the drawing it must be checked against ISO 12020-2 or FlexLink's requirements. See picture 1.</p>
Dimensions	<p>All dimensions on the FlexLink drawing must be on the approval drawing because they must be measured and documented in the protocol of the <i>initial sample</i>. If the supplier drawing shows more dimensions they shall be checked as well, considering the general or specific tolerances.</p>
Dimension tolerances	<p>All tolerances of dimensions must be checked against the ones on the FlexLink drawing, including the geometrical tolerances with the proper references.</p>
Geometrical tolerances	<p>Should be checked carefully. It's easy to overlook a missing diameter symbol in a box.</p>
Quantity of dimensions	<p>The quantity of the dimensions (e.g., 3x 11) shall be checked because this is important for the measuring protocol.</p> <p>Example: if the profile has more than one T-slot all of them shall be measured and documented in the protocol. See picture 2.</p>

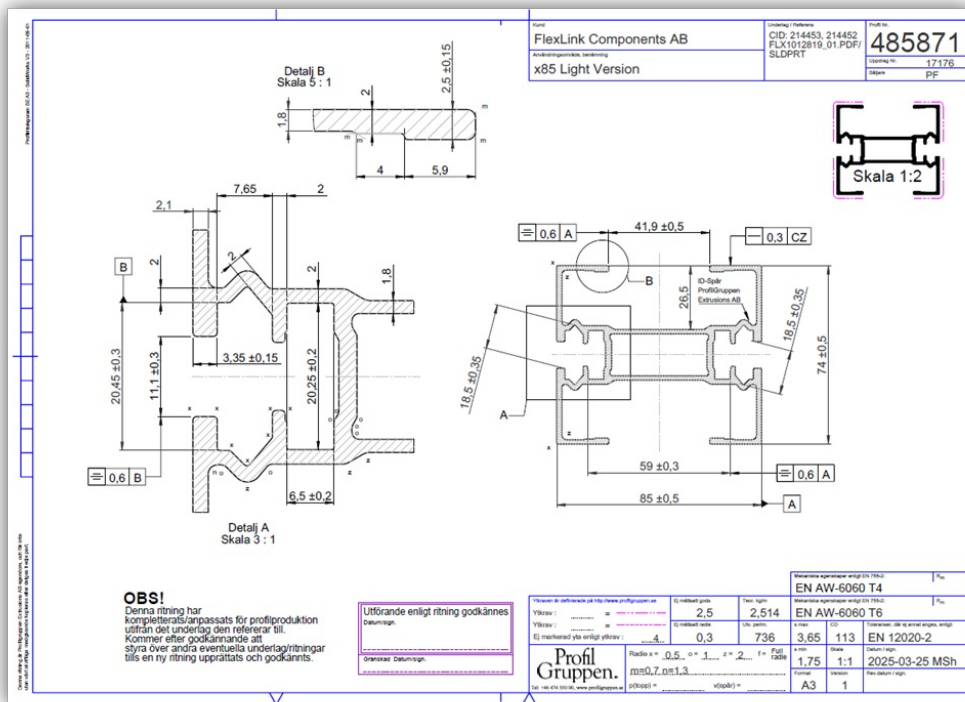
Picture 1: example of special tolerances in the title block (supplier Alumac, Malaysia)

ALL DIMENSIONS ARE IN MM AND MILL FINISH CONDITION
Straightness: 2.2mm/3.03m
Twist: 2.0mm/3.03m
Flatness: 0.40mm
CCD: 124.50 mm
Unspec Thick.: -
Unspec Thick. Tolerance: $\pm 0.15$
Unspec Corner Radius: R0.50
Unspec Tolerance To Follow: EN 12020-2
FR = Full Radius, R =

Picture 2: example of an XC-T-slot with quantity of dimensions. The profile has eight T-slots



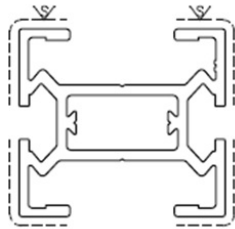
Picture 3: example of an approval drawing from Profilgruppen, Sweden, XBCB LA85



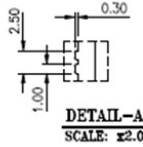
Picture 4: example of an approval drawing from Alumac, Malaysia, XUCB L

# ALUMAC INDUSTRIES SDN.BHD.

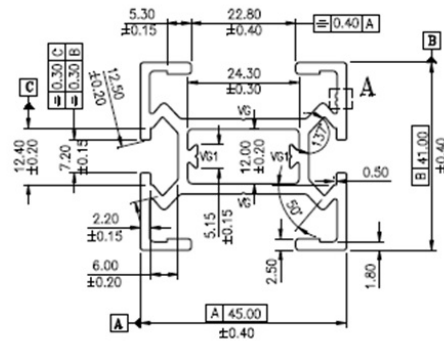
SECTION DRAWING ( 300593-X )



ACTUAL SIZE



Unspec. Metal Dimensional Tolerance To Follow: EN 12020-2	
Dimension (mm)	Spec. Allow (mm)
0.00-10.00	0.15
10.01-15.00	0.20
15.01-30.00	0.25
30.01-45.00	0.30
45.01-60.00	0.40
60.01-90.00	0.45
90.01-120.00	0.60
120.01-150.00	0.80
150.01-180.00	1.00
180.01-240.00	1.20



ACTUAL SIZE

**Notes:**

VS - Visible Surface

VG - Vee Groove 0.30 mm Deep x 120°

VG1 - Vee Groove 0.45 mm Deep x 90°

PLEASE NOTE THAT THE SIGNING OF THIS DRAWING IS AUTHORIZING ALUMAC INDUSTRIES SDN BHD TO CUT THE ABOVE DIE FOR THE CUSTOMER AT HIS OWN COST. ANY ALTERNATIONS MADE AFTER MANUFACTURE OF TOOLAGE WILL BE ON CUSTOMER'S ACCOUNT.

**CUSTOMER : FLEXLINK AB**

SECTION NO: AFL 7-17005

Description: AUTOMATION PROFILE

Weight: 1.407 Kg/M

ALL DIMENSIONS ARE IN MM AND MILL

Die Cost: RM4900.00

Alloy: 6060-T6

FINISH CONDITION

Anod. Perim. 358.16 mm

Straightness: 1mm/m

Remarks: MACHINING

Finishing NA10

Twist: 1.5°/m, not greater than 5°

We confirm and accept the above &amp; attached conditions,

Scale: Full Scale x0.50

Flatness: 0.006 x width

Drawn by: AKMA

CCD: 60.80 mm

Date: 09.04.2025

Unspec Thick: -

Revision: 0

Unspec Thick Tolerance: ±0.25

Enquiry No. 0028-2025 (10)

Unspec Corner Radius: R0.30

Customer Ref. XUCB 3

Unspec Tolerance To Follow: EN 12020-2

Packing Code :

FR = Full Radius, R =

Chop &amp; Sign by Customer.

Date.

P.T.O FOR ATTACHED CONDITIONS

Attaching an already **existing** *Related Document* to an item in *Supplier Copy* or *Designed*

Important: do it on the list level - don't open the item in a tab!

	B...	Dra...	M...	S	Part Number	Revi...	Designation	Name	Description
					3905414	10	XLRS 3X15	Guide rail	
					3920473	12	XDBM 3X22	Support	
					3927450	11	XCB8 3X24X44		
					3927457	09	XCBL 3X44X64		ght
					3927458	10	XCBL 3X44X88		ght
					3927459	11	XCBL 3X64		ght
					3927461	09	XCBL 3X88		ght
					5056957	07	XCCD 3X88 D		
					5112400	06	XUCB 3		

Properties

Delete

Add Part Customer

Create New Revision

Add Part Supplier

Promote Part and CAD To Prototype

Promote to 'Designed'

Create Item Specification Report

Create Derived Part

Update Additional Information

Add Related Document

Start Internal Preparation

Open

Favorite

Claim

Promote

Navigate

Reports

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