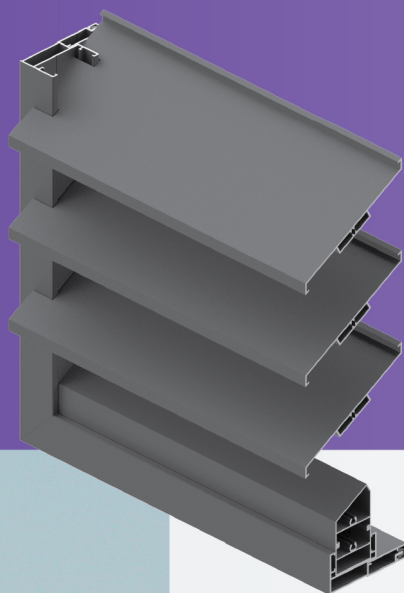




Machines & Aluminium Center
مركز ماكينات ومستلزمات الألومنيوم

ACACIA 50

Shading System Catalogue



2026

Ver.01

MACHINES AND ALUMINUM CENTER

Machines and Aluminum Center is an Egyptian based company established in the year 1981 and started its activity with aluminium applications in architectural and construction field.

They represent and cooperate with several leading European firms in field of aluminium business including aluminium fabrication machinery, accessories and hardware for architectural applications and different aluminium systems varying from windows and doors, up to facades and solar protection.

Our goal is to supply our clients with whatever is needed to apply our aluminium systems in the building construction. We are specialized in supplying all required machinery, equipments, dies, punches, hardware and fittings for our aluminium systems.

We offer a wide range of products to local market and neighbor countries. Our product range includes windows and doors, partition systems, different façade solutions and the related integrated accessories.

We partner with our customers with value added services which means that with the help of our specialized team of engineers, we provide our clients with technical support to assist them in improving their product's quality.

We are committed to innovative and creative product design to fulfill all architectural requirements. Our products can meet the most exacting engineering and technical standards while overcoming sophisticated design challenges.



Machines & Aluminium Center
مركز ماكينات ومستلزمات الألومنيوم

The profiles shown in this catalogue are patented.

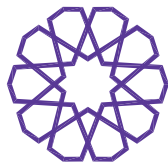
The items shown are the exclusive property of **MACHINES & ALUMINIUM CENTER** and may not be even partially reproduced without **MACHINES & ALUMINIUM CENTER** authorization.

The manufacturer reserves the right to modify the items in this catalog without advanced notice.

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Materials

Aluminium Profiles:

All aluminium profiles are made of EN AW 6063 alloy in accordance with EN 755-1 or EN 12020-1, condition T5, T6. The alloy is resistant to corrosion and permits the production of high precision profiles according to EN 755-9.

Gaskets:

All rubber gaskets profiles are produced from ethylene-propylene rubber (EPDM) are used to seal infill units, window middle part in a hardness that suit its applications, ensuring condensate removal and frame-sash connection.

Accessories:

All systems are designed to use most of standard hardware. The hardware should be selected according to the minimum requirements mentioned in the system catalog.

Fixing elements:

All the connectors and fasteners used for profiles, accessories and hardware connection should be made from galvanized steel or stainless steel.

Surface treatment:

All exposed surfaces of the aluminium profiles is treated either by anodizing treatment (QUALANOD certified anodizing) or by electrostatic powder coating to meet international standards (QUALICOAT certified powder coating).



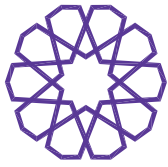
Technical Features

- In all systems there are varieties available in types and dimensions.
- Tolerances in weights & dimensions are according to standard EN 755-9, EN 12020-2 or ANSI H35.2-5.
- The profiles provide a large range of infill types and measures, due to the availability of different profile types and a wide range of gaskets sizes.
- Glazing gaskets inside and outside of E.P.D.M. all-around, gasket profiles visually are in the same level inside and outside to enhance the gasket visibility.
- General compatibility of profiles, accessories and gaskets to hence fewer system accessories and reduced warehouse inventory.
- Charts are available for each system and its profiles indicate allowable panel /sash sizes and the right profile regarding the effective moment of inertia, wind load and window's type to guarantee resistance avoiding any deformation greater than allowable deflection 1/200 of window span according to European Standard hEN 14351-1

under load 500 Pascal up to 1000 Pascal, and up to 2000 Pascal for curtain wall according to EN 13830, charts are available also if requested with deflection (1/175 max 19mm.) of window/façade span according to American Standard) AAMA/WDMA/CSA 101/I.S.2.

- Water resistance is confirmed to International standards, water tightness performance varies according to window type and system design with no water penetration under pressure up to 600 Pascal for sliding types, and not less than 900 Pascal for hinged window types and façade types.

- Air permeability performance varies according to window type and system design, air permeability at pressure 100 Pascal is not greater than 2.25 cubic meter per hour per meter length of opening joint for sliding systems, and not greater than 0.75 cubic meter per hour of opening joint for hinged window types and not greater than 1.5 cubic meter per hour for each square meter of façade types.



Powder Coating

ALWAN is one of the largest facilities in Egypt, in the field of electrostatic application of pure-polyester powder coatings as surface treatment, specifically designed to meet stringent requirements of the construction industry for architectural and industrial aluminum profiles.

We guarantee complete customer satisfaction on all our delivered products. Every production line has a fully equipped laboratory in order to meet all international quality specifications and standards as set by the QUALICOAT organization. The certifications of QUALICOAT  Quality Management ISO 9001 and Environmental Management ISO 14001, provide complete quality assurance. We ensure a full control over all the critical parameters concerning chemical

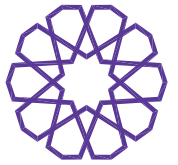
pretreatment and the use of enhanced chemical pretreatment process, with high etching degree, in accordance to QUALICOAT specifications, as well as a full control on the painting processes and polymerization during the whole surface treatment procedure. Therefore, through a unique blending system, stringent quality assurance and compliance to measures, consistent quality during the production process is guaranteed.

The application of the above-mentioned steps will assist along the line with the overall excellent properties and the longevity of the color, providing an attractive finish to the projects and building components by ensuring gloss retention, color stability and corrosion protection.

Available Colors

In regards to the colors, they are available in RAL Gloss & RAL matt. The gloss affects how the eye perceives color so some slight variations in the finish may occur. In addition to that,

the coating provides a wide range of custom-made colors that gives a variety of effects, including metallic effects.



Most of the colors are available in standard durable and some are available in super durable, which complies with advanced levels of weather resistance, gloss and color retention, and corrosion resistance, when compared to the standard durable specification.

Color customization to our standard products may be available on a request basis, with unlimited options of powder coating. In this respect, Non-standard designs and applications can be reviewed to determine the feasibility on a project-specific basis.

Warranty

The warranty is subject to terms and conditions based on the geographical location & when used on an architectural aluminum substrate.

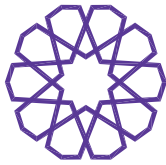
Standard Durable Class 1: Up to 10 years

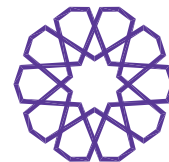
Super Durable Class 2: Up to 25 years

Notes:

- As the products are very often used under conditions beyond supplier's control, we cannot guarantee anything but the quality of the product itself.
- It is expected that any fading and/or chalking and/or change in gloss retention, either uniform or non-uniform that a color will experience in the field will result in the falling within acceptable range as specified in the Qualicoat specification standards.

*QUALICOAT is a quality label organization committed to maintaining and promoting the quality of lacquering, painting and coating on aluminum and its alloys, for architectural applications.





POWDER COATINGS

Interpon D Approved Applicator

Series D1000

MACHINES AND ALUMINIUM CENTER (Alwan)

213, 2nd industrial Zone, 6th of October City, Giza
Egypt

Has fulfilled AkzoNobel's tests and inspection regarding the pre-treatment, application, quality management standards and procedures, and complies with the requirements of the Architectural Range Approved Applicator schedule.

This certificate is effective from
12th October 2022 to 11th October 2023

Approved for Aluminium Alloys: AA6060
Approved for Pre-treatment Type: Chrome

AKZO NOBEL
 Powder Coatings SAE
 Industrial Zone No.4
 6th of October City, Egypt
 Tel: +2028331415 - 8335028
 Fax: +20235330369

Wael Mahmoud
Sales and Marketing Manager
North Africa & Levant

12/10/2022

AkzoNobel Industrial Paints

POWDER COATINGS

Interpon D Approved Applicator

Series D2000

MACHINES AND ALUMINIUM CENTER (Alwan)

213, 2nd industrial Zone, 6th of October City, Giza
Egypt

Has fulfilled AkzoNobel's tests and inspection regarding the pre-treatment, application, quality management standards and procedures, and complies with the requirements of the Architectural Range Approved Applicator schedule.

This certificate is effective from
12th October 2022 to 11th October 2023

Approved for Aluminium Alloys: AA6060
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AKZO NOBEL
 Powder Coatings SAE
 Industrial Zone No.4
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 Tel: +2028331415 - 8335028
 Fax: +20235330369

Wael Mahmoud
Sales and Marketing Manager
North Africa & Levant

12/10/2022

AkzoNobel Industrial Paints

Certificate of Approval

Machines & Aluminium Center (ALWAN)

is certified as an Approved Applicator to coat
Jotun SuperDurable
a product from Jotun Powder Coatings

This Company fulfils the requirements set by Jotun Powder Coatings for pre-treatment and application of powder coatings. These include having the necessary equipment, process controls and technical knowledge to comply with Jotun Powder Coatings' standards.

December 31, 2025
(Certificate valid until above date)

Authorised Signatory
Jotun Powder Coatings UAE (LLC)

Certificate of Approval

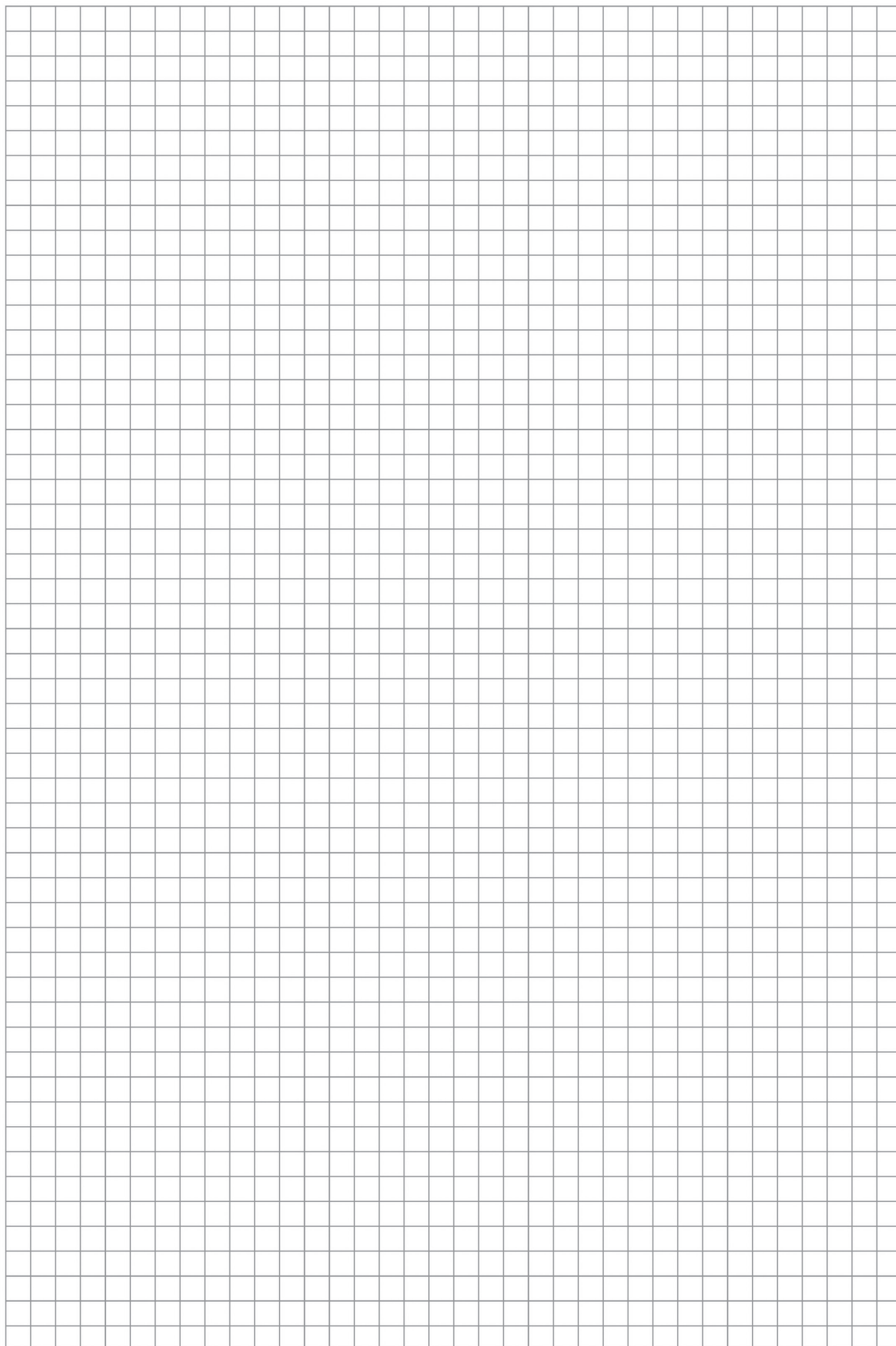
Machines & Aluminium Center (ALWAN)

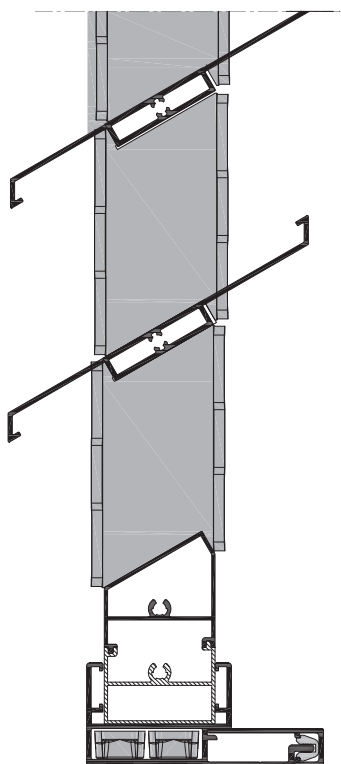
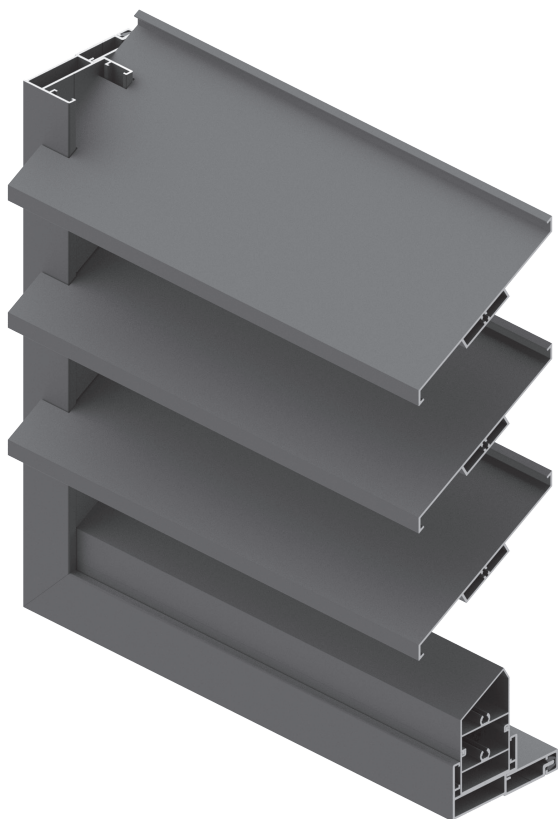
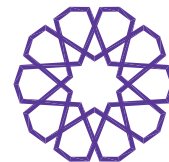
is certified as an Approved Applicator to coat
Jotun Durasol
a product from Jotun Powder Coatings

This Company fulfils the requirements set by Jotun Powder Coatings for pre-treatment and application of powder coatings. These include having the necessary equipment, process controls and technical knowledge to comply with Jotun Powder Coatings' standards.

December 31, 2025
(Certificate valid until above date)

Authorised Signatory
Jotun Powder Coatings UAE (LLC)





- Designed to provide effective natural ventilation solution and create a healthier indoor climate.
- Can be applied in different ways such as natural ventilation, sun shading and simple Fixed-Sliding-Hinged-Folding shutters systems.
- Several types of slats/blades are available vary in shapes, sizes and Installation methods.
- Provides effective protection against unwanted visitors.
- Compatible with most of our systems.

Technical Characteristics

Main Profile Depth

42 mm. to 125 mm.

Main Profile Height

21 mm. to 80 mm.

Slat Depth

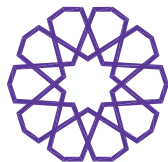
60 mm. to 200 mm.



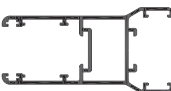







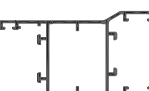
Slat Height

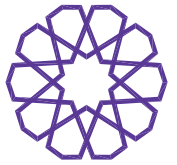
20 mm. to 40 mm.





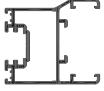
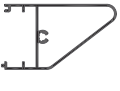


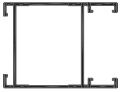

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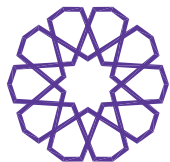
30 - 45 - 60 -90



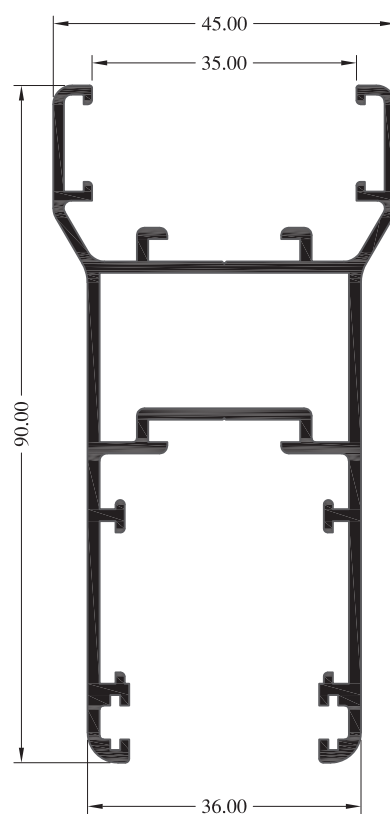
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|---|-------------|-----------------|----------------|-----------------|----------------|----------------|-------------|
| | | | | | I _x | I _y | |
|  | 5 132 1000 | Frame Profile | 0.794 | 364 | 20.08 | 3.11 | 14 |
|  | 5 132 1300 | Frame Profile | 1.119 | 504 | 38.19 | 4.94 | 14 |
|  | 5 132 4238 | Leaf Profile | 1.341 | 531 | 12.55 | 30.54 | 14 |
|  | 5 135 1120 | Transom Profile | 0.384 | 181 | 0.81 | 2.15 | 15 |
|  | 5 135 1310 | Slat Profile | 0.246 | 85 | 0.82 | 0.34 | 15 |
|  | 5 135 1311 | Slat Profile | 0.459 | 174 | 0.00 | 0.00 | 15 |
|  | 5 135 1312 | Slat Profile | 0.630 | 271 | 0.00 | 0.00 | 15 |
|  | 5 135 1830 | Slat Profile | 0.431 | 137 | 2.93 | 2.93 | 14 |
|  | 5 135 1930 | Slat Profile | 0.810 | 137 | 4.20 | 3.67 | 14 |
|  | 5 135 2130 | Transom Profile | 0.401 | 160 | 1.47 | 2.24 | 15 |
|  | 5 135 4128 | Leaf Profile | 0.955 | 423 | 9.81 | 15.68 | 16 |



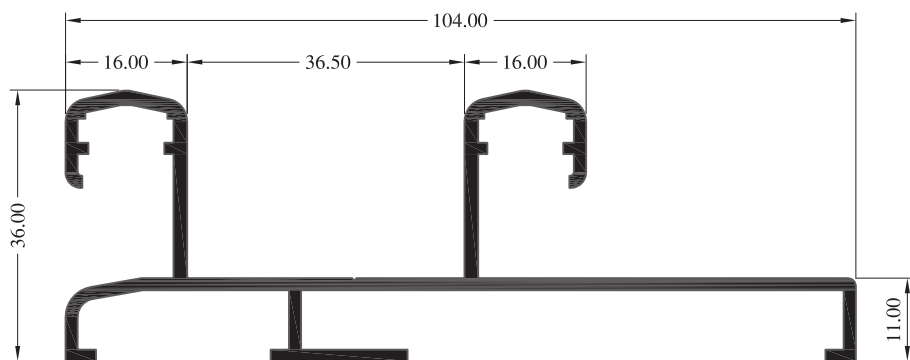
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|---|-------------|-----------------|----------------|-----------------|----------------|----------------|-------------|
| | | | | | I _x | I _y | |
|  | 5 135 4210 | Slat Profile | 0.292 | 111 | 0.00 | 0.00 | 16 |
|  | 5 135 4310 | Slat Profile | 0.354 | 111 | 0.00 | 0.00 | 16 |
|  | 5 135 4410 | Transom Profile | 0.395 | 182 | 3.04 | 0.34 | 16 |
|  | 5 135 4510 | Slat Profile | 0.517 | 189 | 3.18 | 5.30 | 16 |
|  | 5 135 4538 | Frame Profile | 0.880 | 360 | 6.76 | 8.02 | 16 |
|  | 5 135 5160 | Transom Profile | 0.529 | 229 | 5.39 | 3.20 | 16 |
|  | 5 135 5220 | Transom Profile | 0.619 | 275 | 6.81 | 1.65 | 17 |
|  | 5 135 7439 | Frame Profile | 0.788 | 318 | 2.52 | 12.88 | 17 |
|  | 5 135 7460 | Frame Profile | 0.832 | 318 | 11.49 | 10.70 | 17 |
|  | 5 135 9310 | Spacer | 0.290 | 117 | 0.40 | 1.92 | 17 |



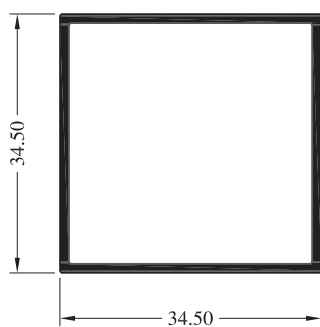
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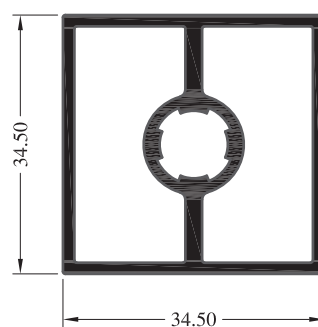
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5 132 1300
1.119 Kg./ml.

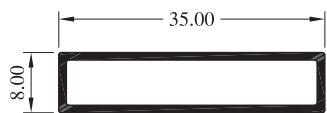
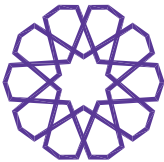


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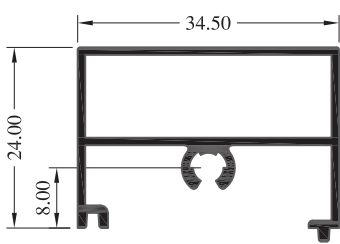


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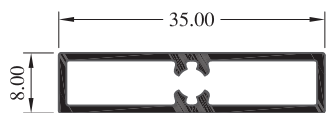
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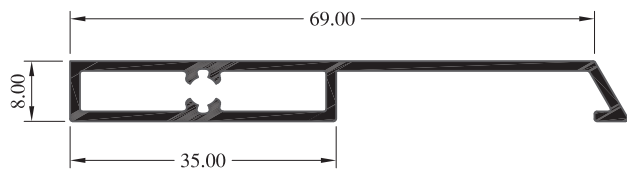
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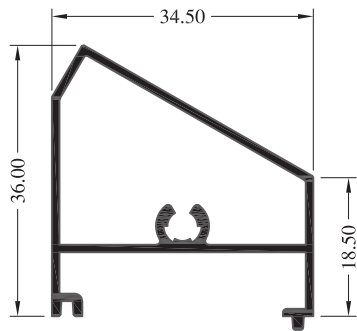
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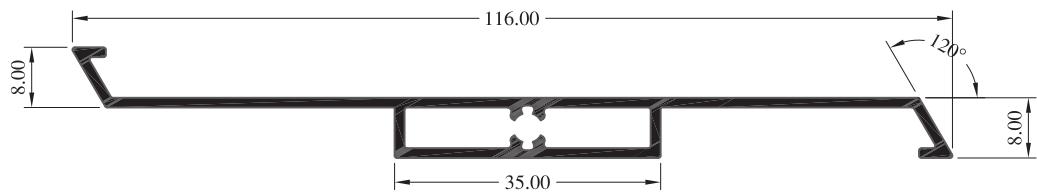
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0.459 Kg./ml.

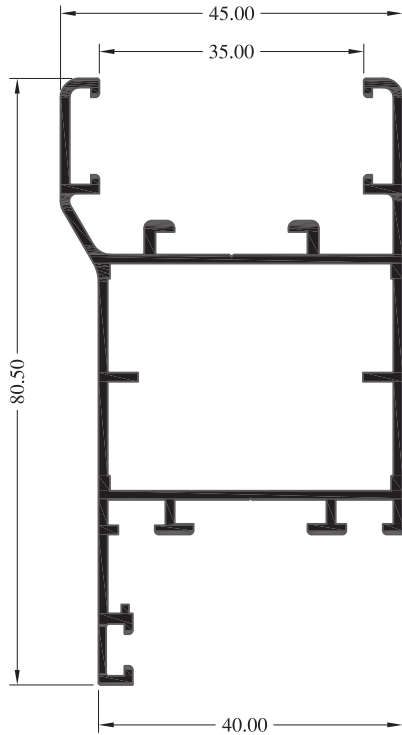
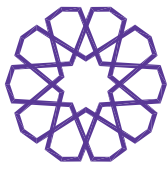


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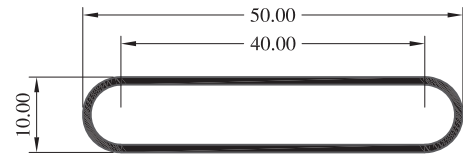


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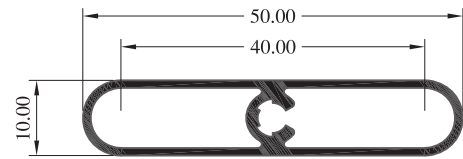
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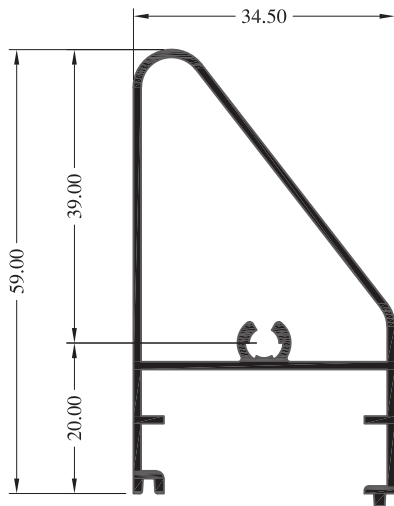
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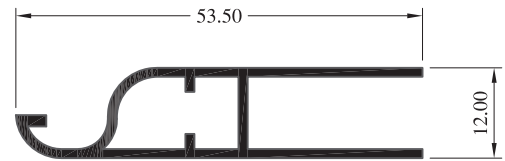
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0.354 Kg./ml.



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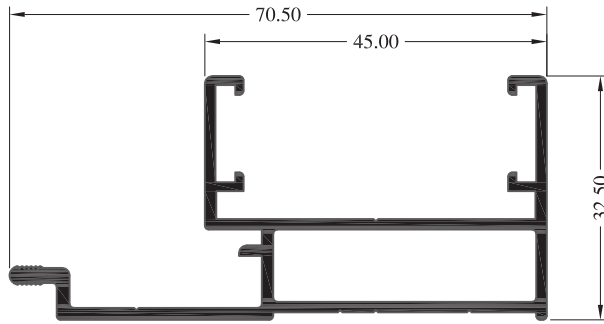


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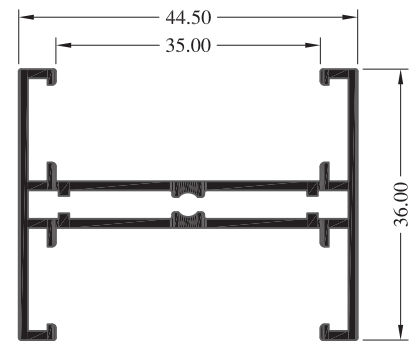
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0.517 Kg./ml.

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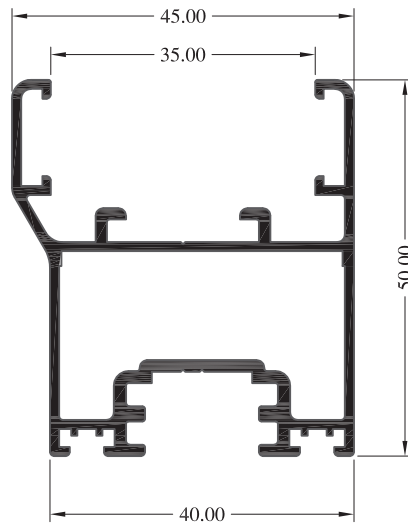
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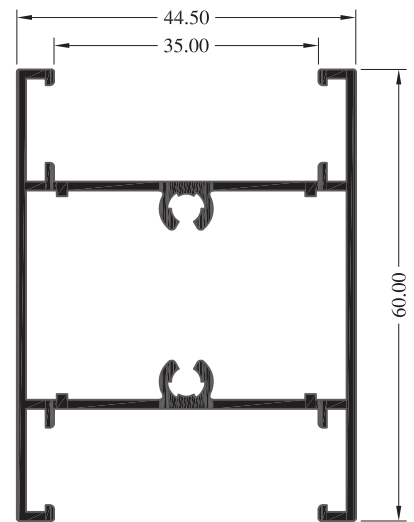
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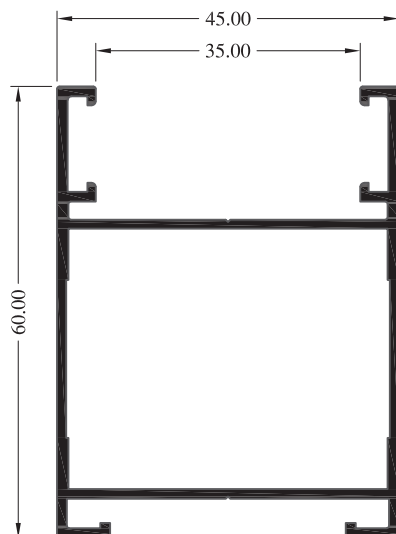
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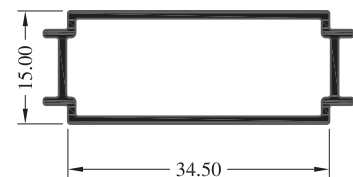
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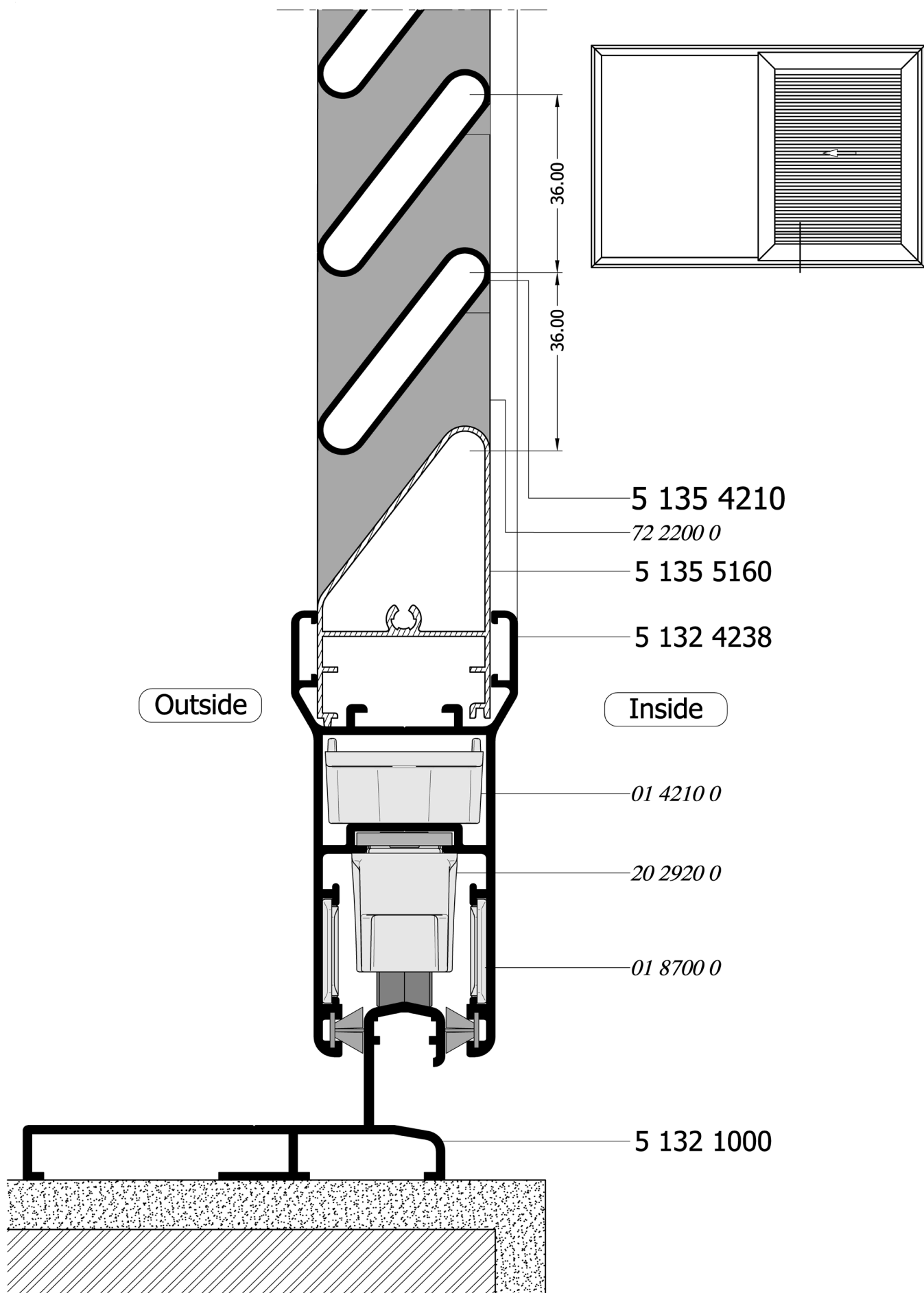
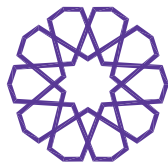
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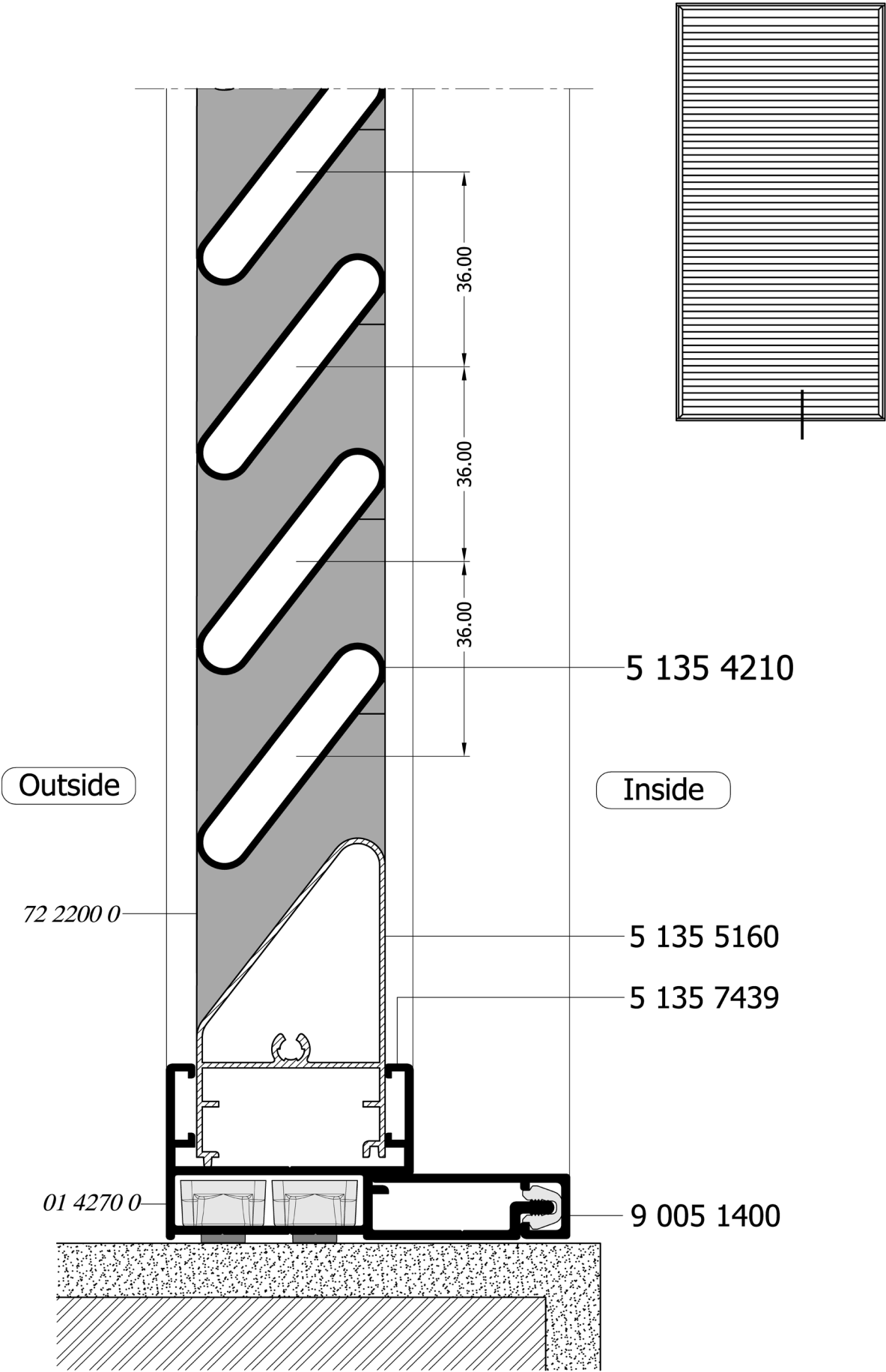
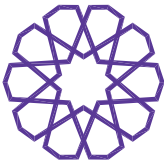


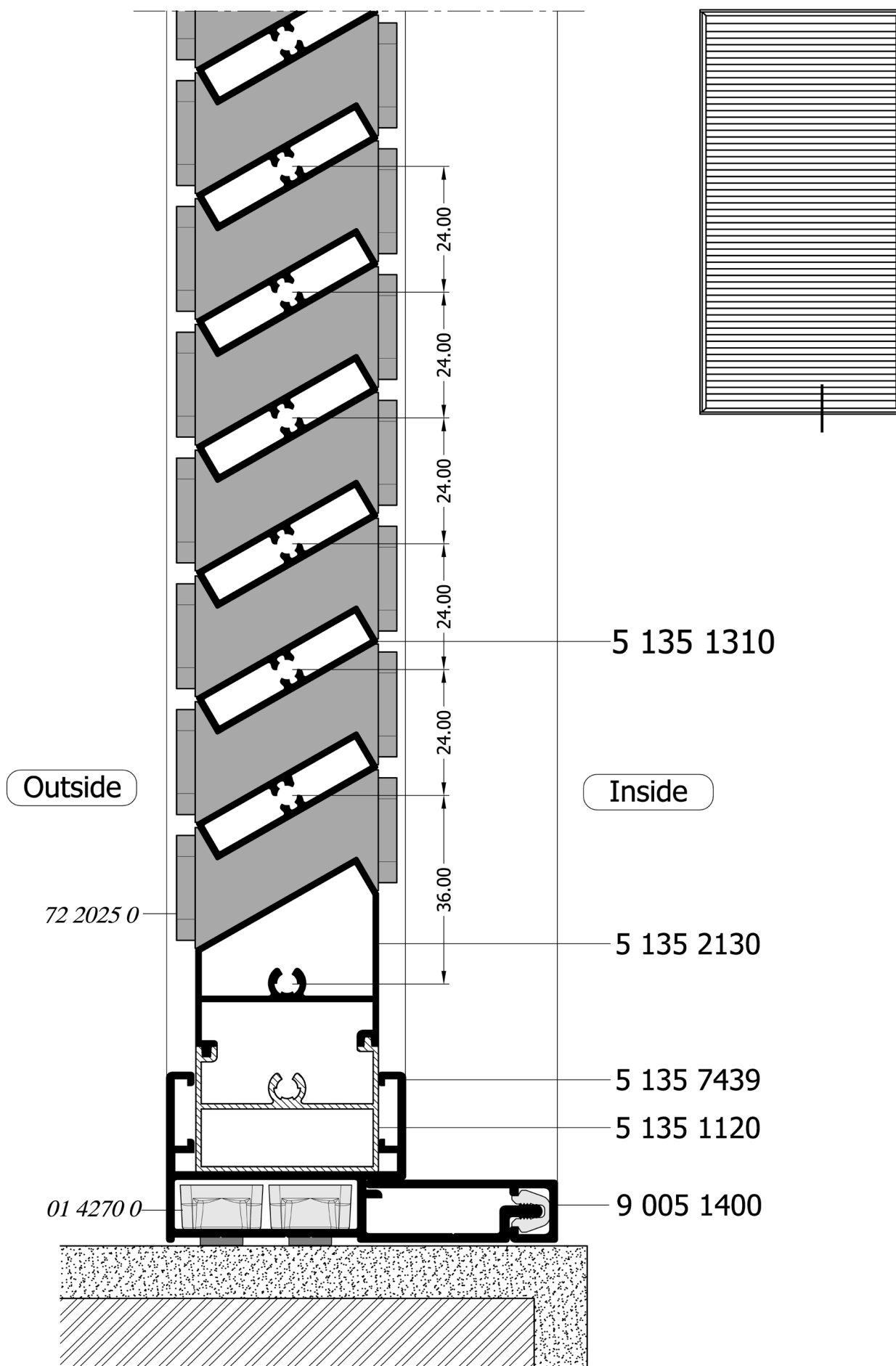
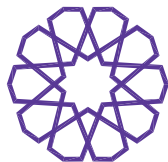
5 135 9310

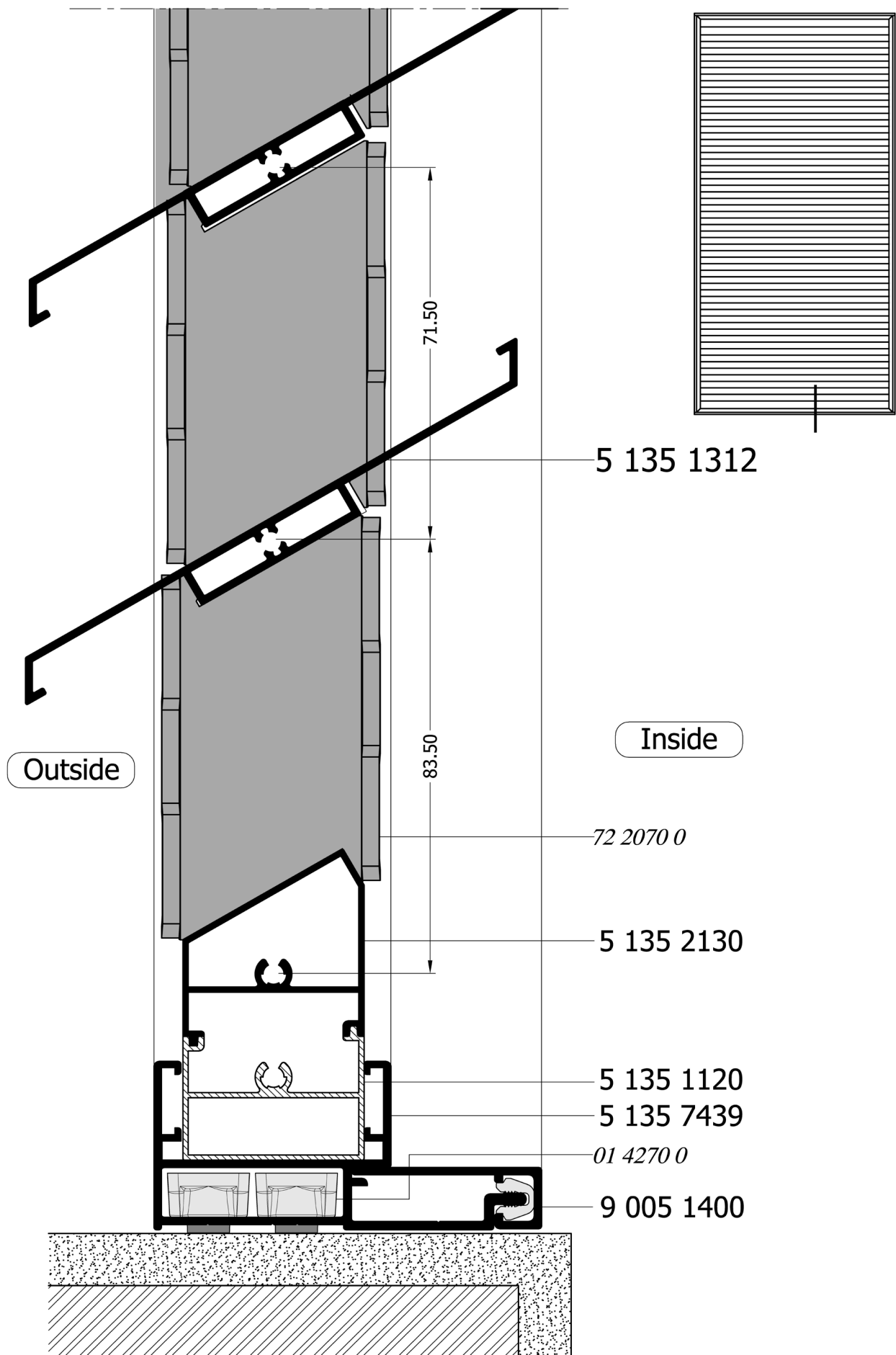
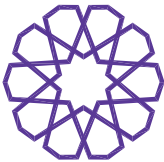
0.290 Kg./ml.

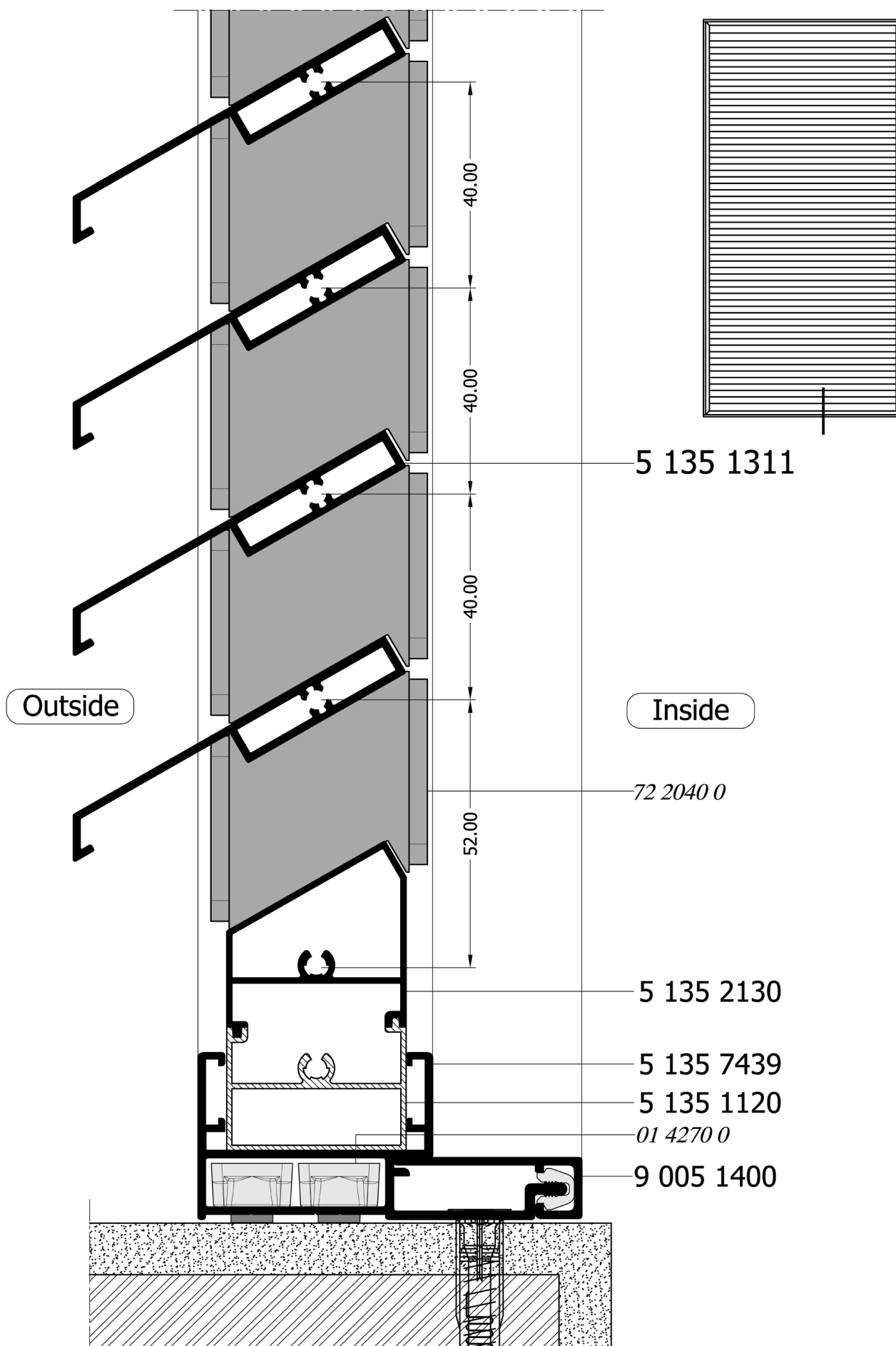
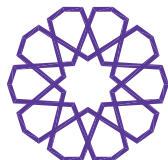
| | | | | | |
|-----------------|------------|------------|------------|------------|------------|
| Profile No. | 5 135 4538 | 5 135 5220 | 5 135 7439 | 5 135 7460 | 5 135 9310 |
| Profile Old No. | C 5091 | C 5051 | C 5096 | C 5007 | C 5003 |

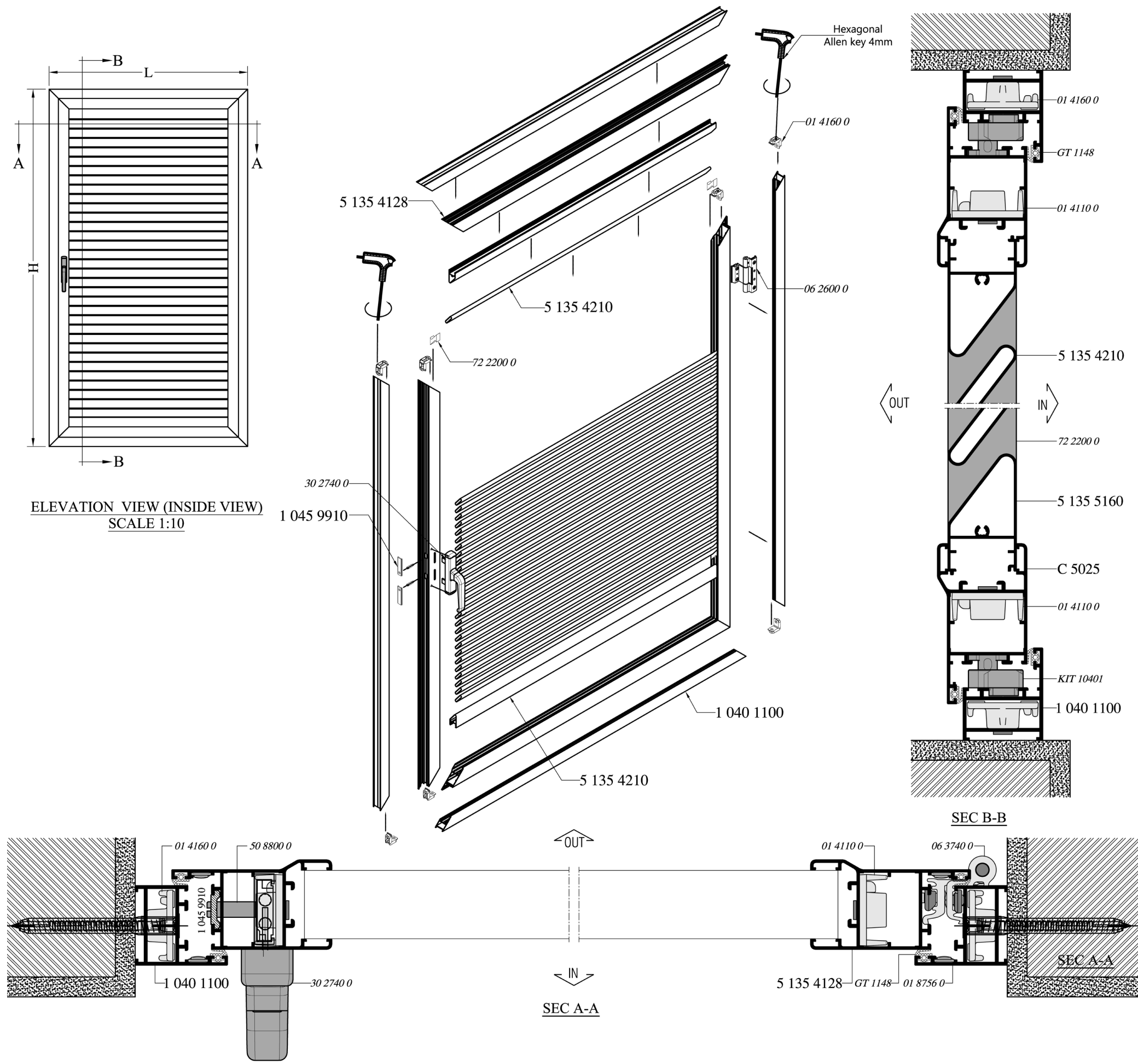






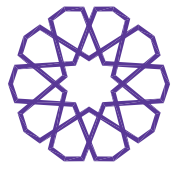


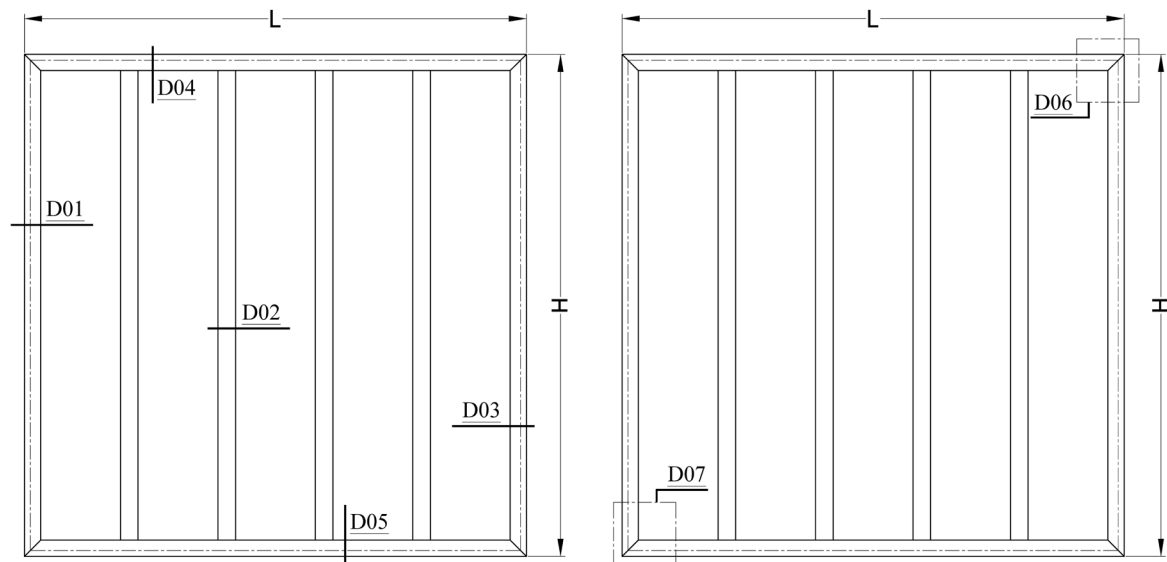




| PROFILES CUTTING LIST | | | |
|-----------------------|------------|----------------|----------------|
| FIGURE | PROF. NO | QTY. | CUTTING LENGTH |
| | 1 040 1100 | 2 | L |
| | | 2 | H |
| | 5 135 4218 | 2 | L-37 |
| | | 2 | H-37 |
| | 5 135 5160 | 2 | L-170 |
| | 5 135 4210 | $\frac{H}{36}$ | L-170 |
| ALL DIMENSIONS IN mm. | | | |

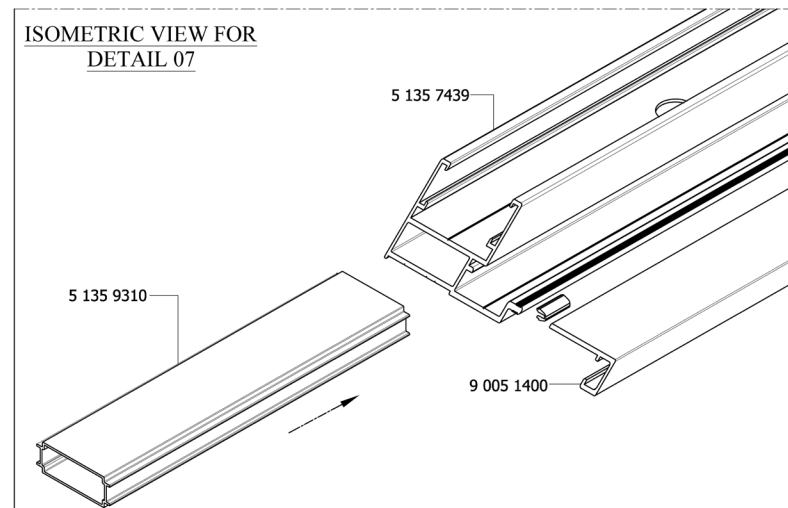
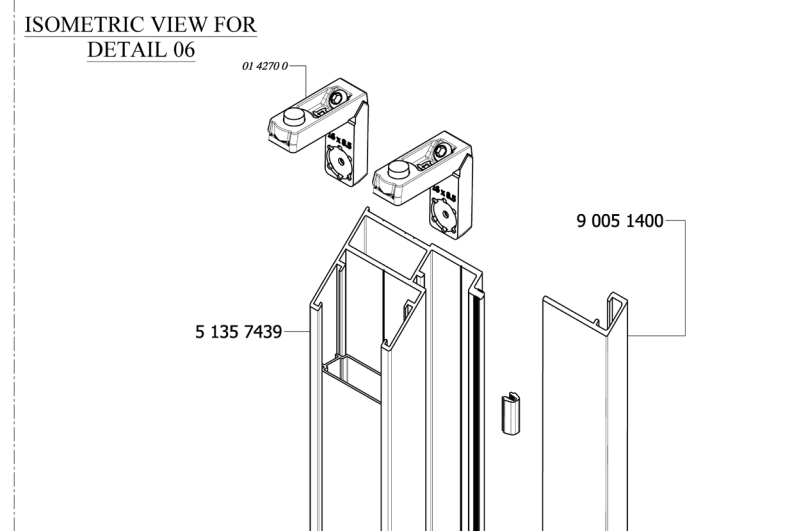
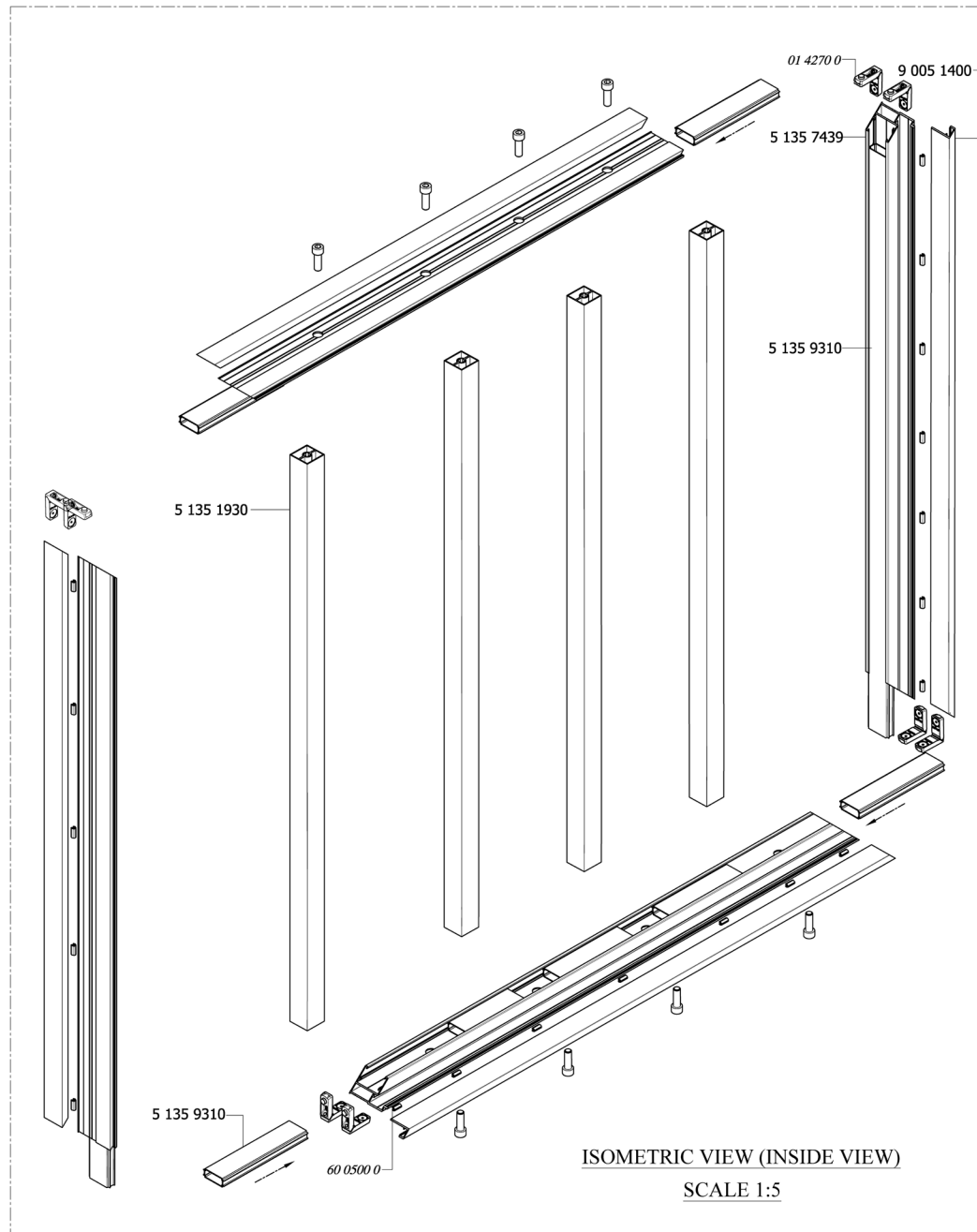
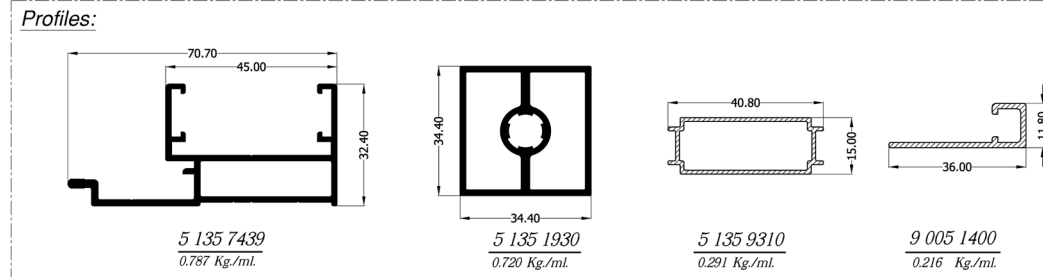
| ACCESSORIES LIST | | | |
|------------------|-----------|----------------|--------------------|
| FIGURE | ACC. NO | QTY. | DESCRIPTION |
| | 01 4160 0 | 4 | Frame Corner Joint |
| | 01 4110 0 | 4 | Corner Joint |
| | 06 3740 0 | 2 | Hinges |
| | 30 2740 0 | 1 | Handle |
| | 72 2200 0 | $\frac{H}{36}$ | Slat Spacer Kit |
| | GT 1148 | 4L+4H | Striker Gasket |
| | 50 8800 0 | 1 | Connection Kit |



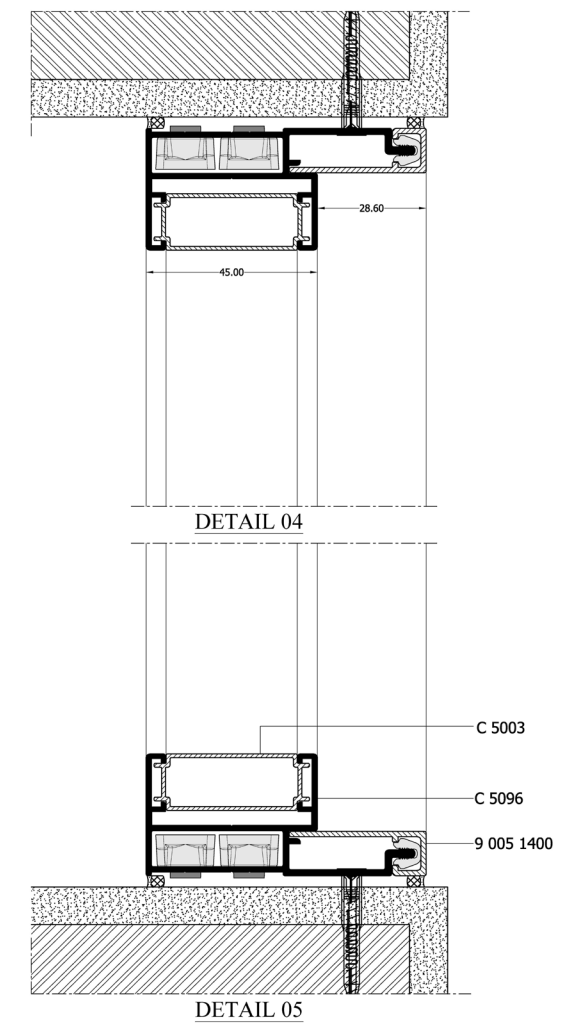


L01-ELEVATION {INSIDE VIEW}
SCALE 1:15

L01-ELEVATION {OUTSIDE VIEW}
SCALE 1:15

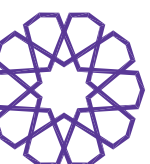
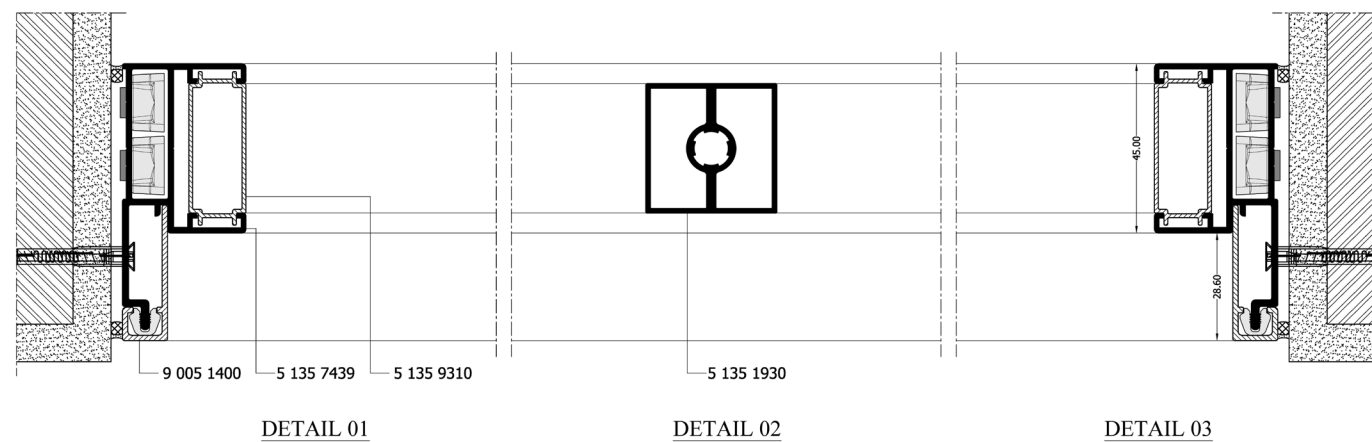


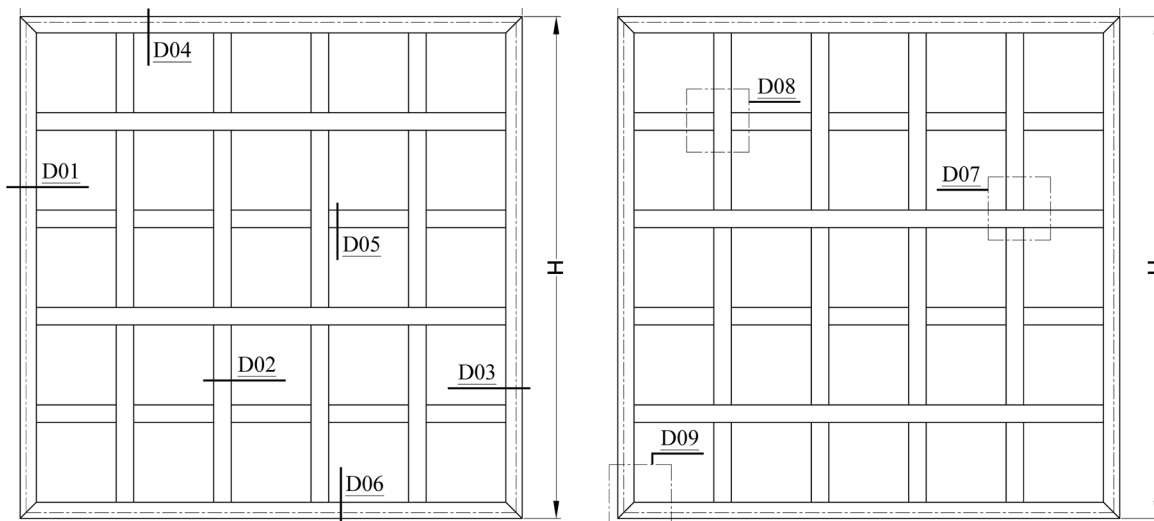
| ACCESSORIES LIST | | | | |
|------------------|--------|-----------|---------------------|--------------------|
| NO. | FIGURE | ACC. NO | QTY. | DESCRIPTION |
| 1 | | 01 4270 0 | 8 | Frame Corner Joint |
| 2 | | 60 0500 0 | $\frac{2L+2H}{250}$ | Clip |
| 3 | | 301-1030 | 8 | Fixing Screw |



| PROFILES CUTTING LIST | | | |
|-----------------------|------------|--------|---|
| FIGURE | PROF. NO | QTY. | CUTTING LENGTH |
| | C 5096 | 2 | L |
| | | 2 | H |
| | 9 005 1400 | 2 | L |
| | | 2 | H |
| | 5 135 1930 | NW | H - 27 |
| | 5 135 9310 | NW + 1 | $\frac{L - \{27 + (NW \cdot 35)\}}{(NW + 1)}$ |
| | | 2 | H - 27 |

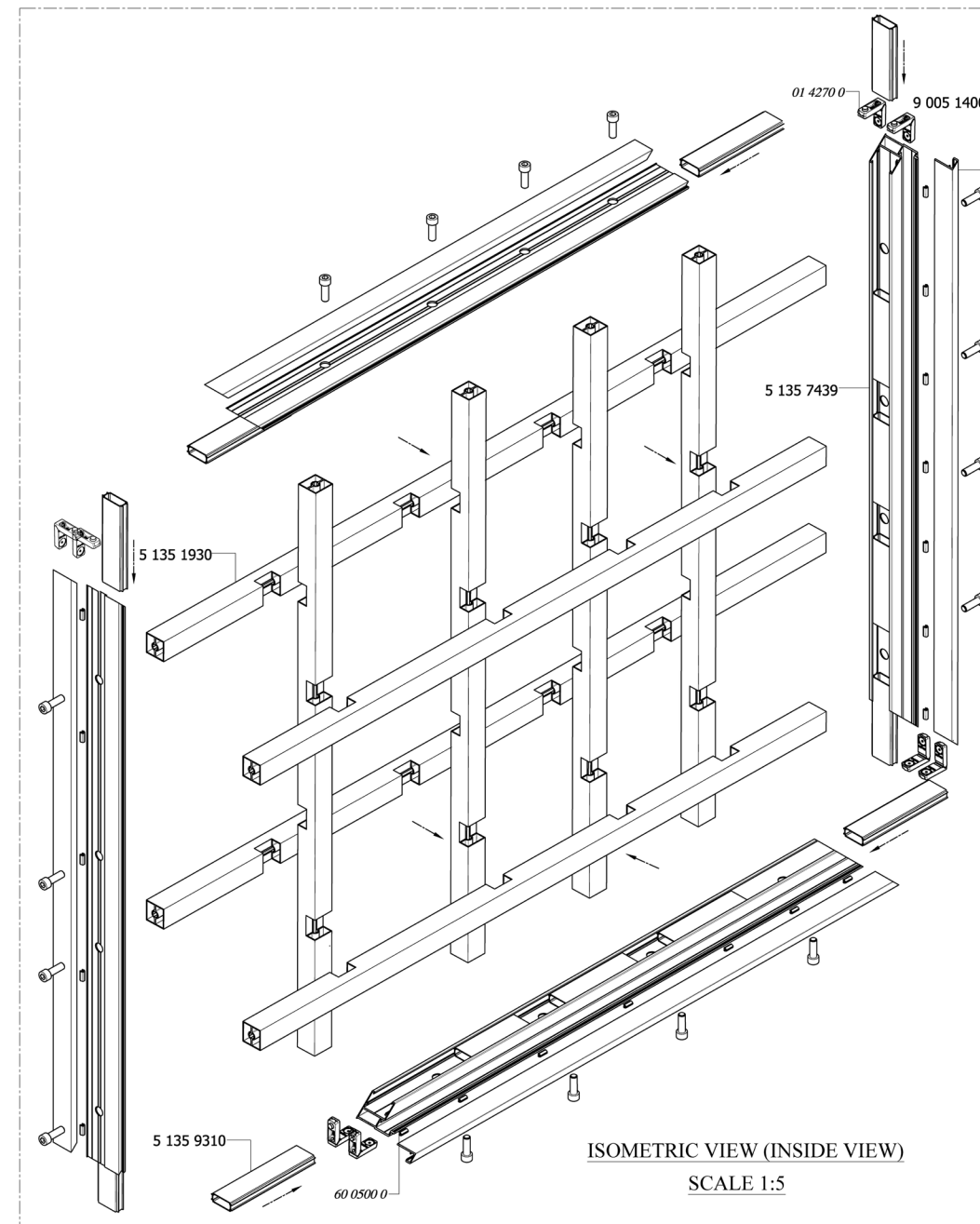
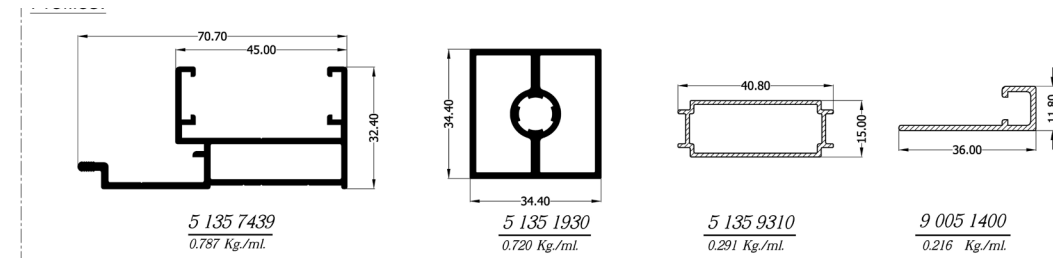
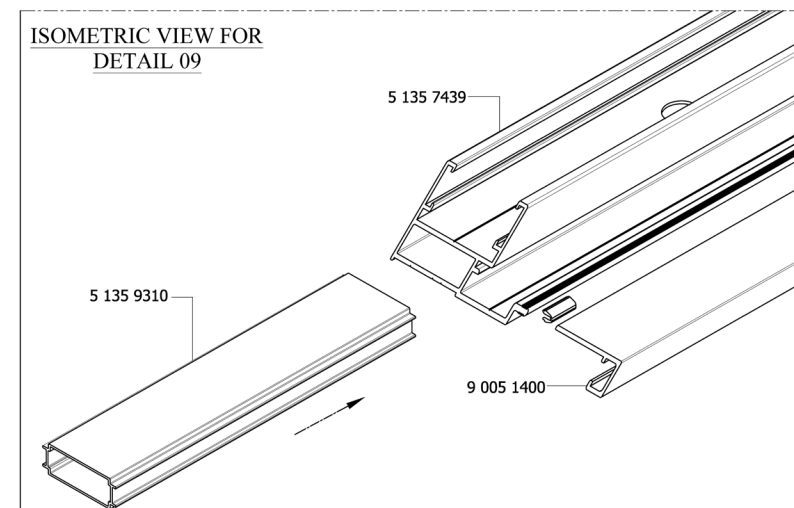
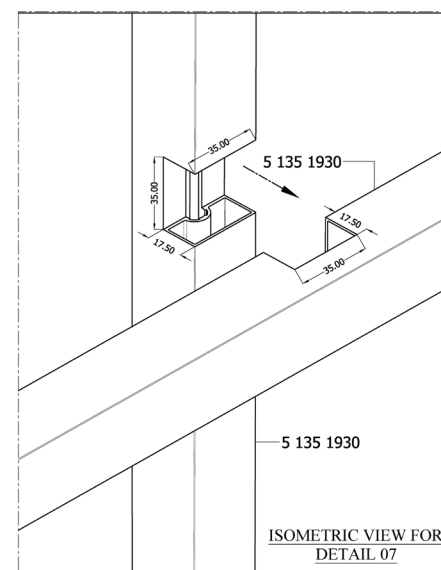
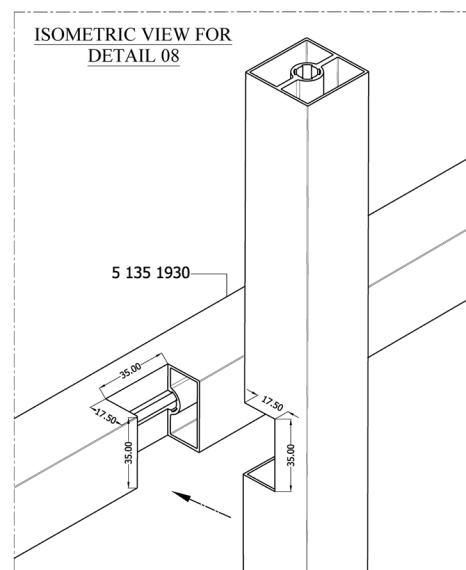
NH = Number of Slats in Height & NW = Number of Slats in Width
ALL DIMENSIONS IN mm.



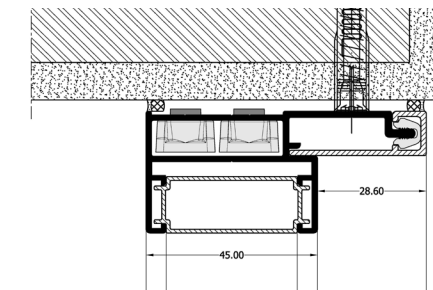


L01-ELEVATION {INSIDE VIEW}
SCALE 1:15

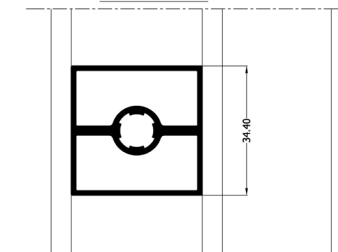
L01-ELEVATION {OUTSIDE VIEW}
SCALE 1:15



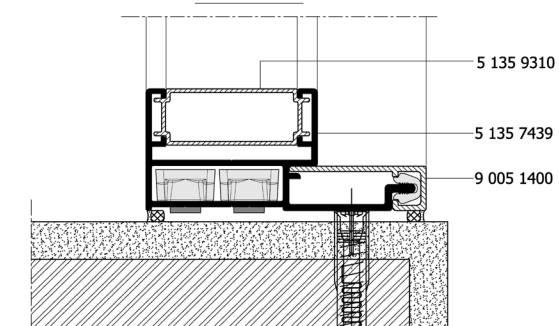
ISOMETRIC VIEW (INSIDE VIEW)
SCALE 1:5



DETAIL 04



DETAIL 05



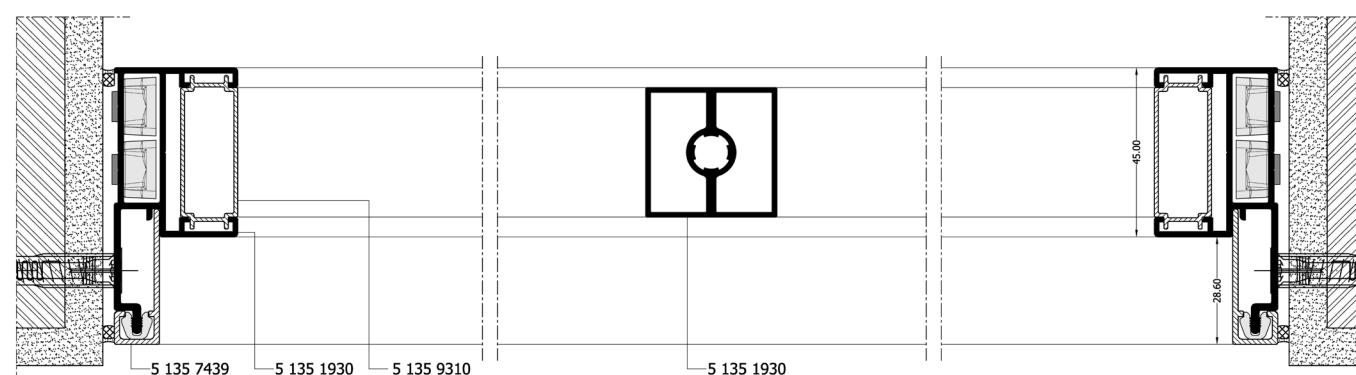
DETAIL 06

PROFILES CUTTING LIST

| FIGURE | PROF. NO | QTY. | CUTTING LENGTH |
|--------|------------|--------|---|
| | 5 135 7439 | 2 | L |
| | | 2 | H |
| | 9 005 1400 | 2 | L |
| | | 2 | H |
| | 5 135 1930 | NH | $L - 27$ |
| | | NW | $H - 27$ |
| | 5 135 9310 | NH + 1 | $\frac{L - \{27 + (NH \cdot 35)\}}{(NH + 1)}$ |
| | | NW + 1 | $\frac{H - \{65 + (NW \cdot 35)\}}{(NW + 1)}$ |

NH = Number of Slats in Height & NW = Number of Slats in Width
ALL DIMENSIONS IN mm.

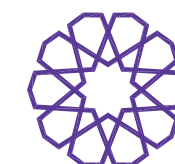
| ACCESSORIES LIST | | | | |
|------------------|--------|-----------|---------------------|--------------------|
| NO. | FIGURE | ACC. NO | QTY. | DESCRIPTION |
| 1 | | 01 4270 0 | 8 | Frame Corner Joint |
| 2 | | 60 0500 0 | $\frac{2L+2H}{250}$ | Clip |
| 3 | | 301-1030 | 16 | Fixing Screw |

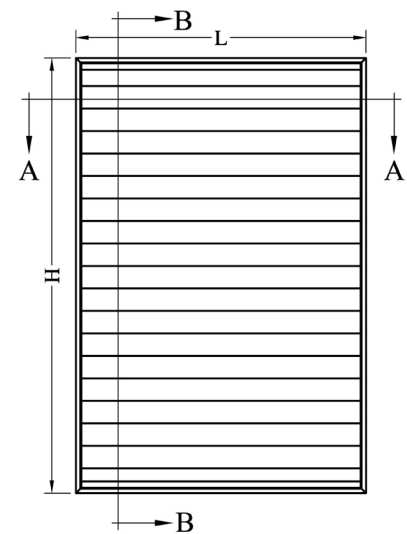


DETAIL 01

DETAIL 02

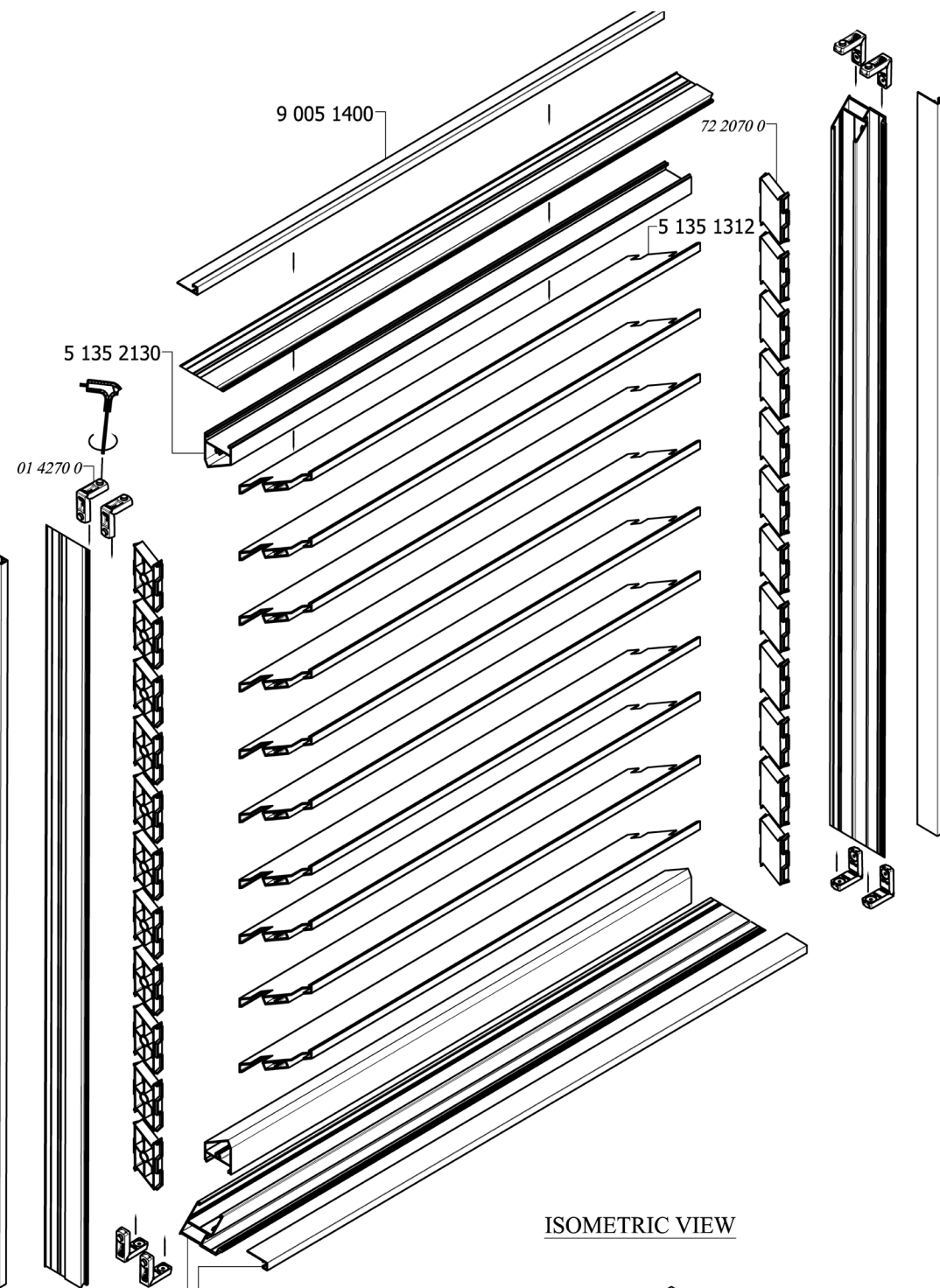
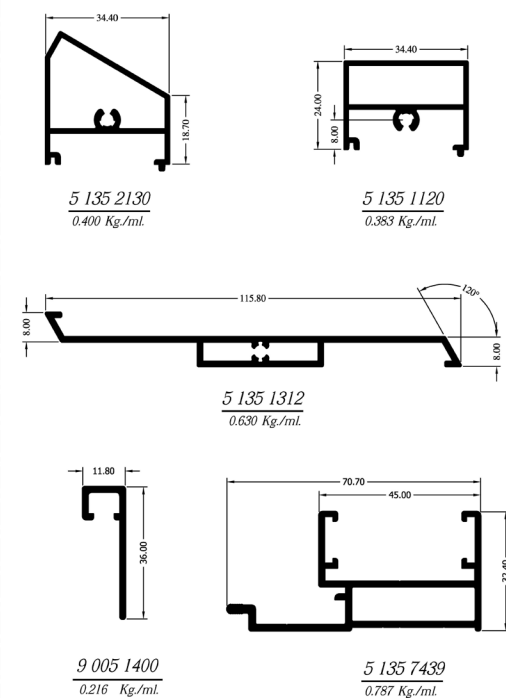
DETAIL 03





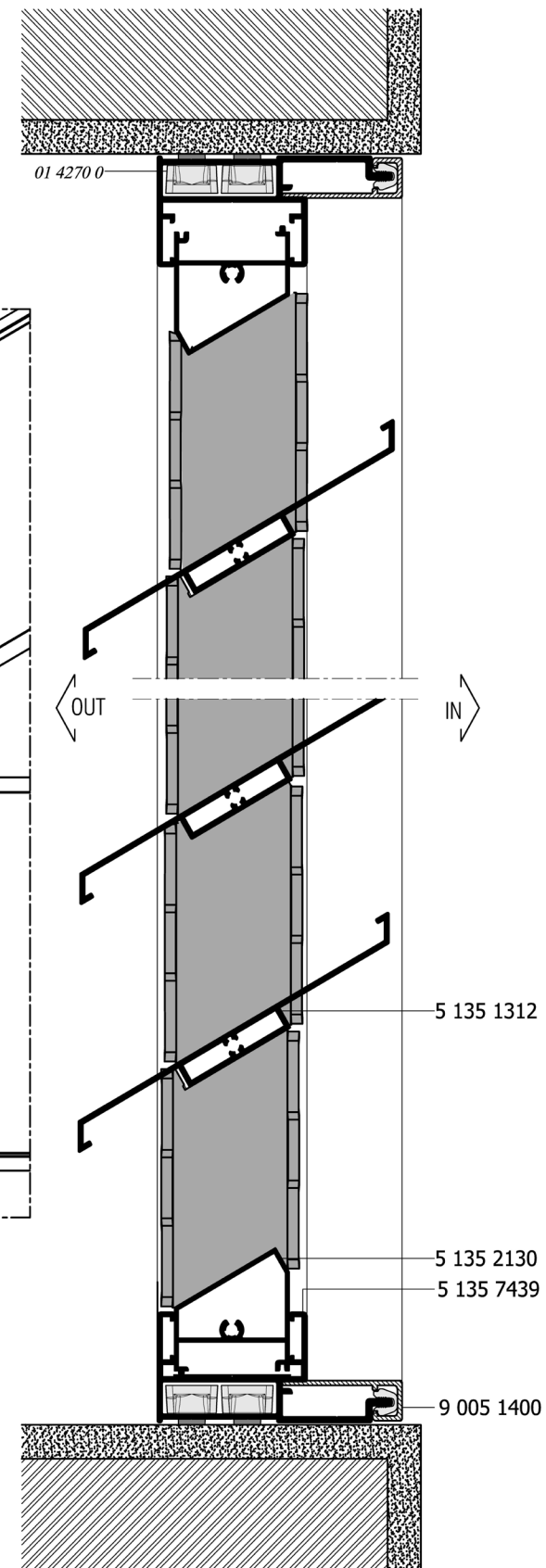
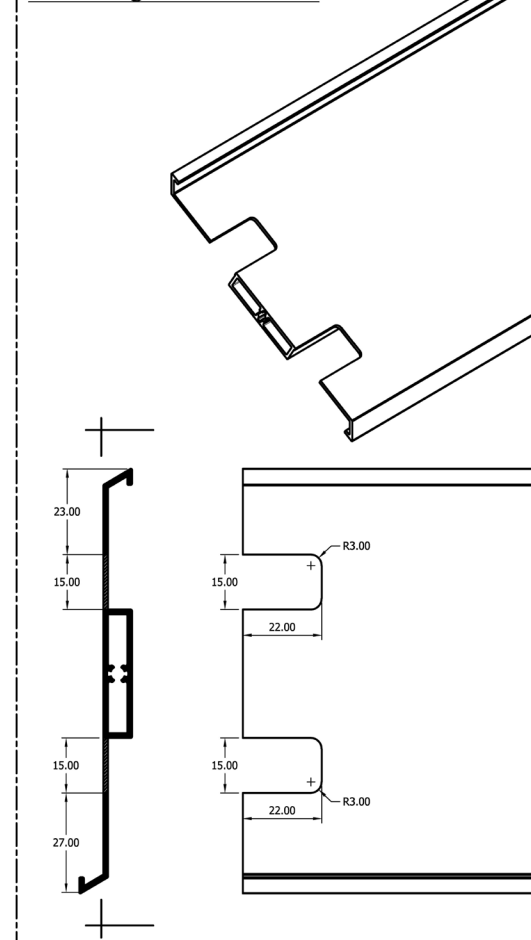
ELEVATION VIEW (INSIDE VIEW)
SCALE 1:20

Profiles:

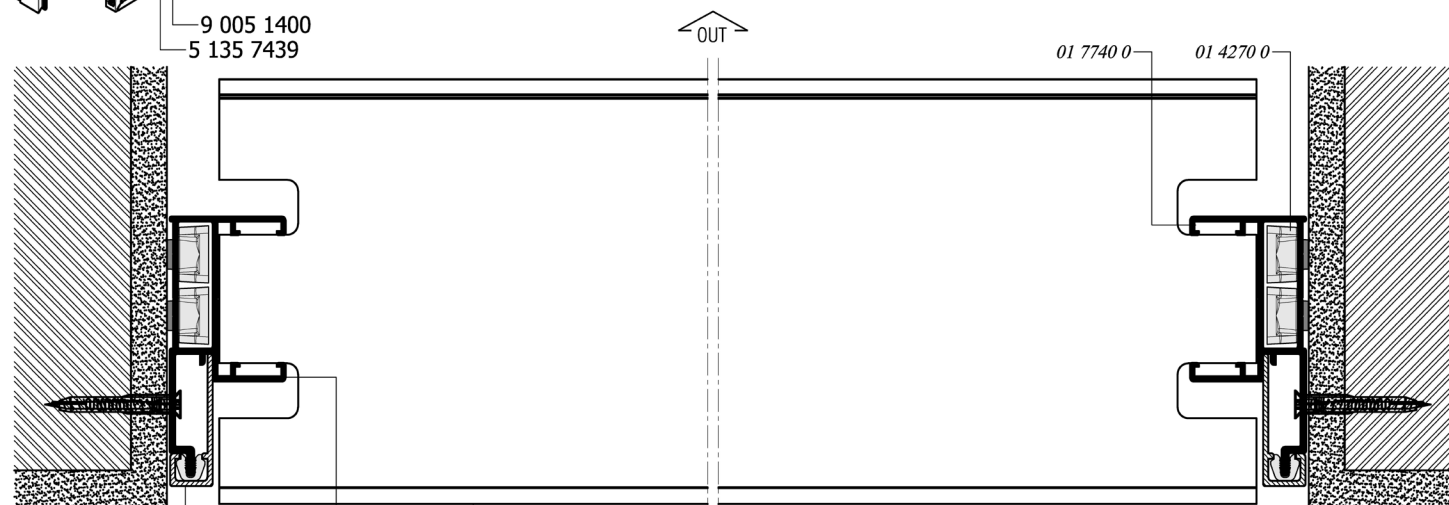


ISOMETRIC VIEW

Machining For 5 135 1312



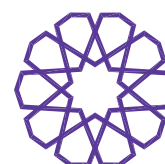
SEC B-B

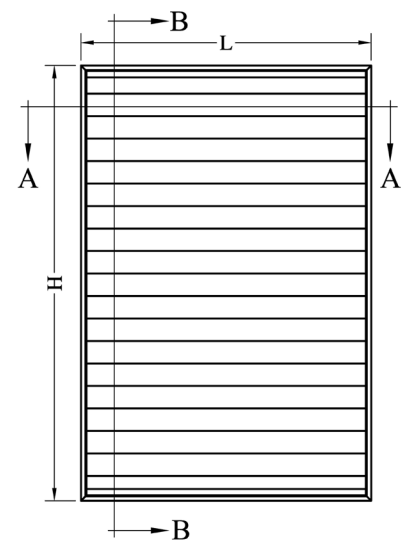


SEC A-A

ACCESSORIES LIST

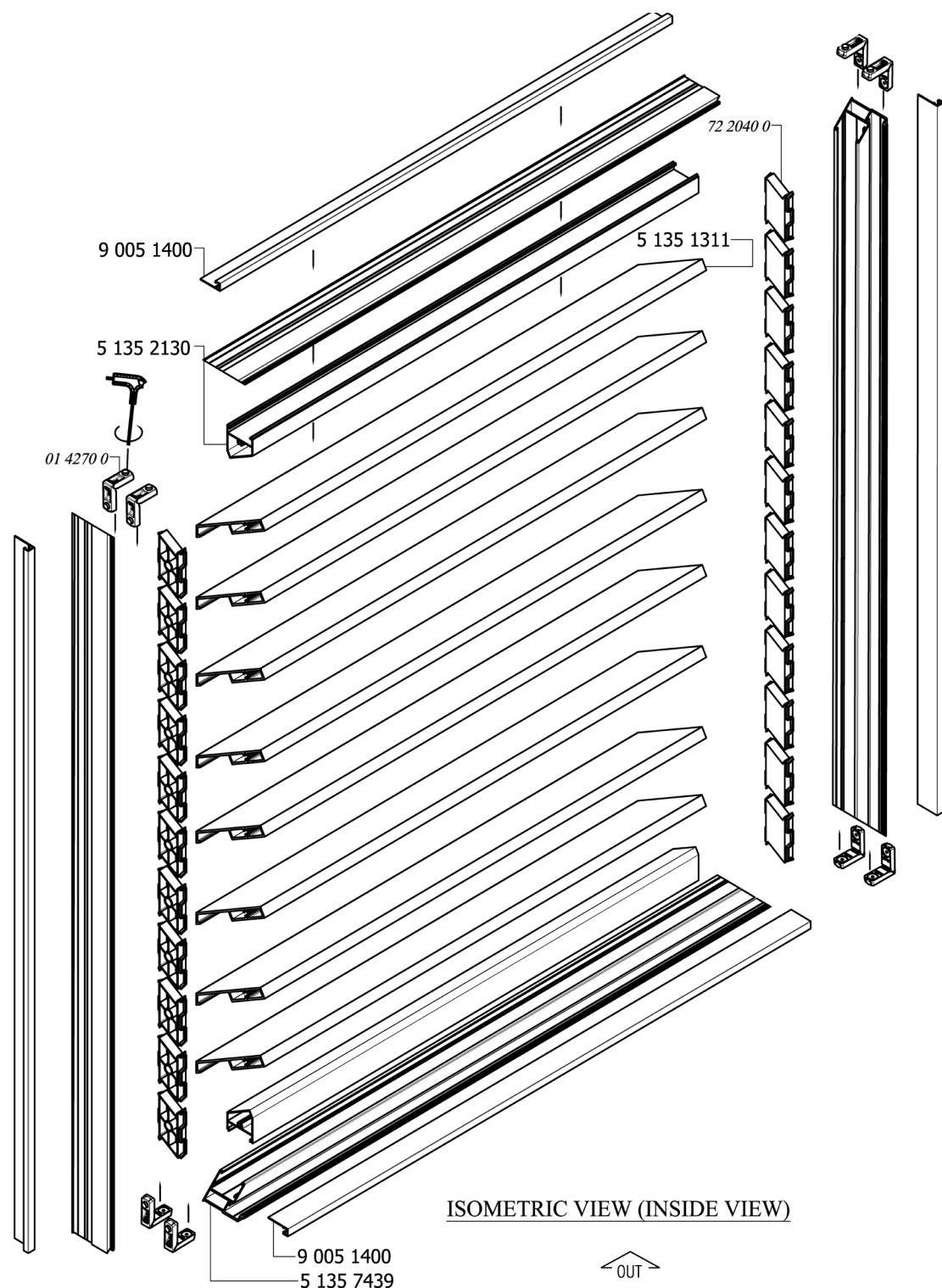
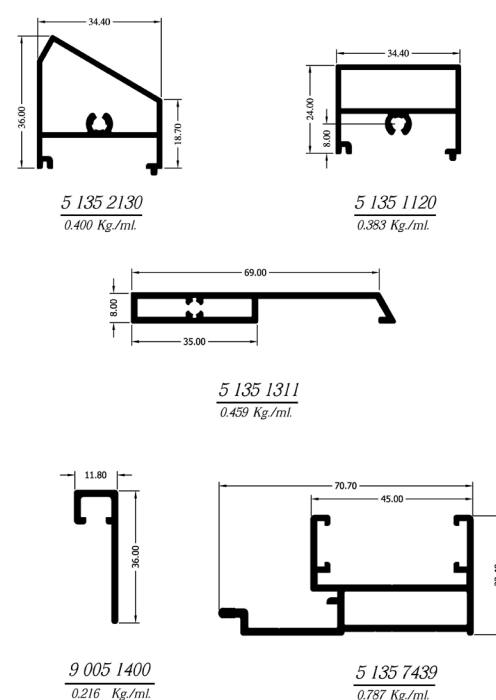
| NO. | FIGURE | ACC. NO | QTY. | DESCRIPTION |
|-----|--------|-----------|---------------------|--------------------|
| 1 | | 01 4270 0 | 8 | Frame Corner Joint |
| 2 | | 72 2070 0 | $\frac{H}{72}$ | Slat spacer Kit |
| 3 | | 60 0500 0 | $\frac{2L+2H}{250}$ | Clip |





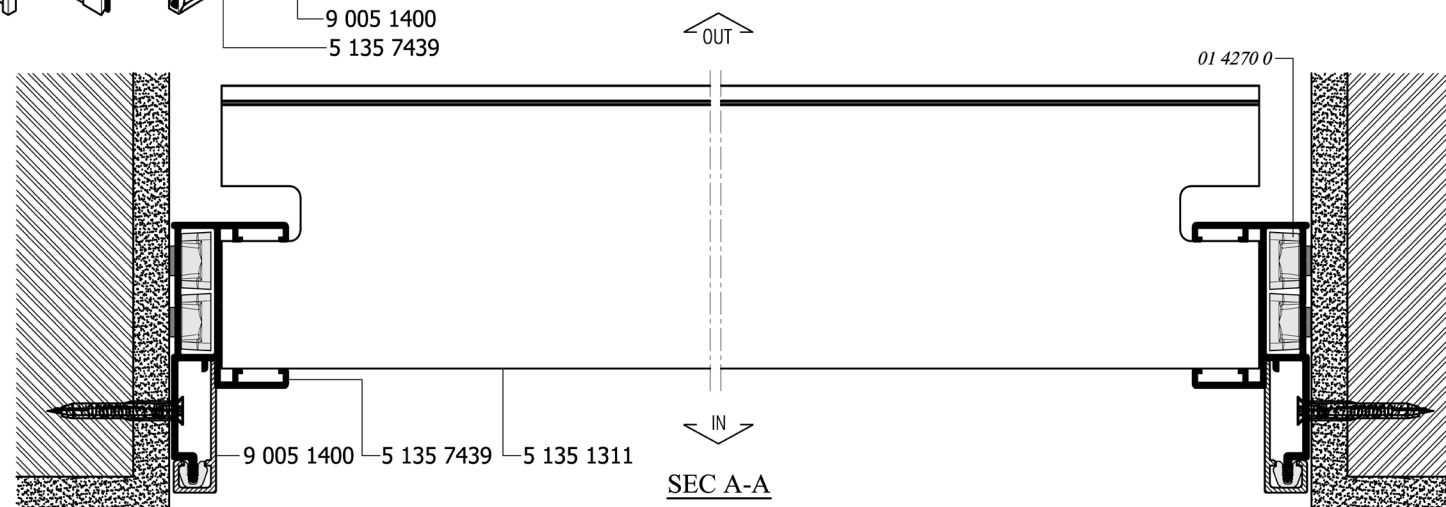
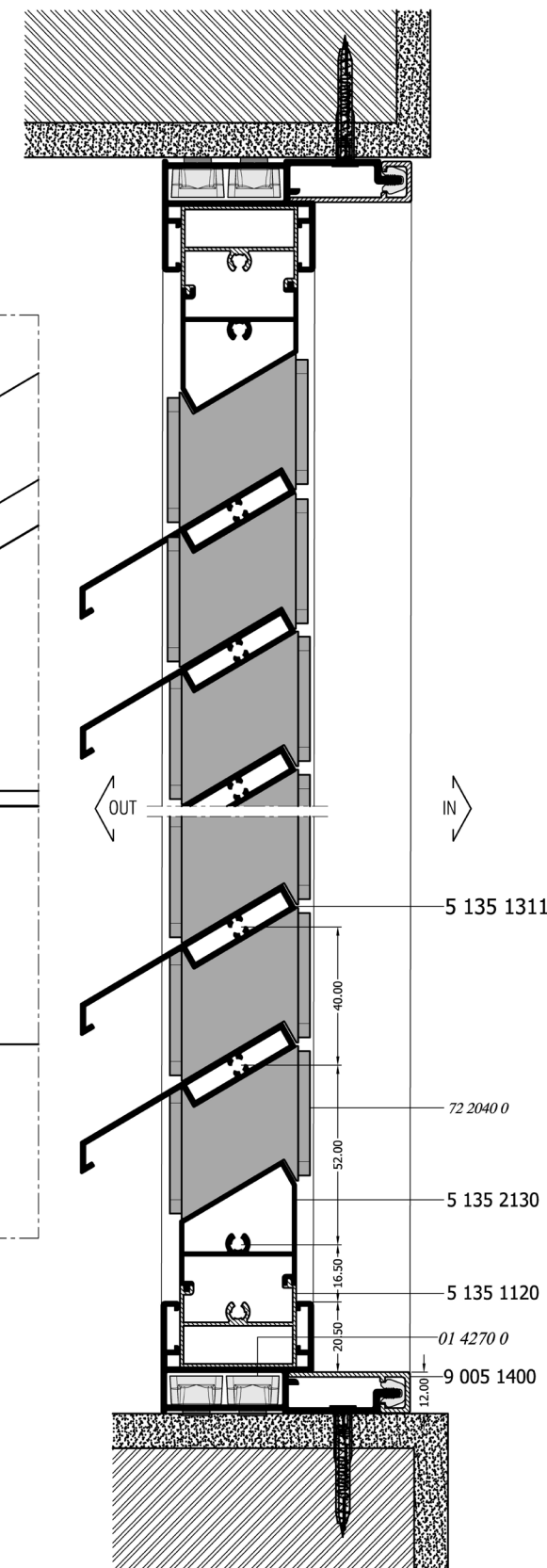
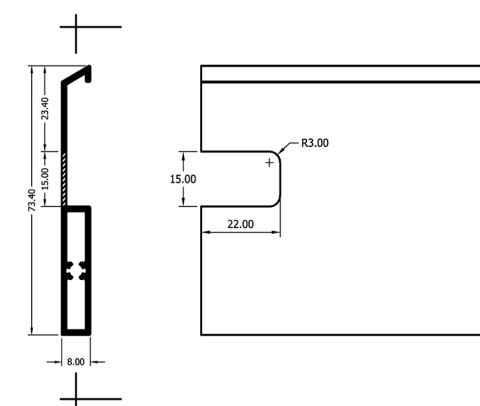
ELEVATION VIEW (INSIDE VIEW)
SCALE 1:20

Profiles:



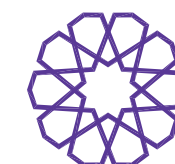
ISOMETRIC VIEW (INSIDE VIEW)

Machining For 5 135 1311



ACCESSORIES LIST

| NO. | FIGURE | ACC. NO | QTY. | DESCRIPTION |
|-----|--------|-----------|---------------------|--------------------|
| 1 | | 01 4270 0 | 8 | Frame Corner Joint |
| 2 | | 72 2040 0 | $\frac{H}{40}$ | Slat spacer Kit |
| 3 | | 60 0500 0 | $\frac{2L+2H}{250}$ | Clip |



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