

LIGHTENED BLANK SAMPLES FOR FACE WALL DECORATION

Lightened blank sample elements are to be used for the face wall of a building. Cornices, floor marks, window frames, trusses are made according to a picture/drawing using blown-out polystyrene lined with materials for the outside with the effect of plaster. The lightness of blown-out polystyrene facilitates laying and makes the construction process quicker, even in difficult situations. Revetment materials in plaster made of concrete and resin form a layer which can resist bad weather. For any type of materials Arbloc provides data of blow resistance necessary to determine the level of resistance to hail or other accidental impacts. Arbloc offers 3 types of blank sample materials: of 2004, 2006, and 2008.



2004 type



CHARACTERISTICS

- Core of blown-out polystyrene.
- Reinforcement net of glass fibre.
- Plaster finishing of white concrete and quicklime.

The 2004 type lightened blank samples are made by hand as it used to be done in the past. It is an old technique promoted for such modern materials as blown-out polystyrene, glass fibre, and white concrete, with addition of quicklime and resin. This gives the product high aesthetic quality, mechanic resistance and lightness – the advantages to consider for those who want to decorate face walls of a new building or reconstruct an old one. The revetment is applied and polished with a template from 1.5 to 2.5 mm. This processing technique ensures a constant and equal image of all the parts which is a clear advantage during the laying. Glass fibre is applied before plastering and has to reinforce the surface of a building. The 2004 type is made according to a drawing of parts with the maximum length of 1950 mm

Note: during transportation or after laying some small blisters can develop which do not worsen the quality of the product in time and which can easily be filled with elastomer.

WAYS OF EXECUTION



2006 type



CHARACTERISTICS

- Core of blown-out polystyrene
- Finishing of polyurethane resin and marble filling

Type 2006 lightened blank samples are made with modern products and techniques. Their core is of blown-out polystyrene cut according to the drawing with revetment in compact and rigid polyurethane resin with addition of marble. This is a product that can satisfy the highest demands of form and size.

The revetment is done by sprinkling which gives the surface a finishing similar to plaster and mechanic resistance in time.

This type of processing makes it possible to make milled lightened blank samples of complicated forms. Old cornices can be preserved with the technique of laser scanning and in this way reproduced by three-dimensional milling.

Note: after laying some small blisters can develop which do not worsen the quality of the product in time and which can easily be filled with elastomer.

2008 type



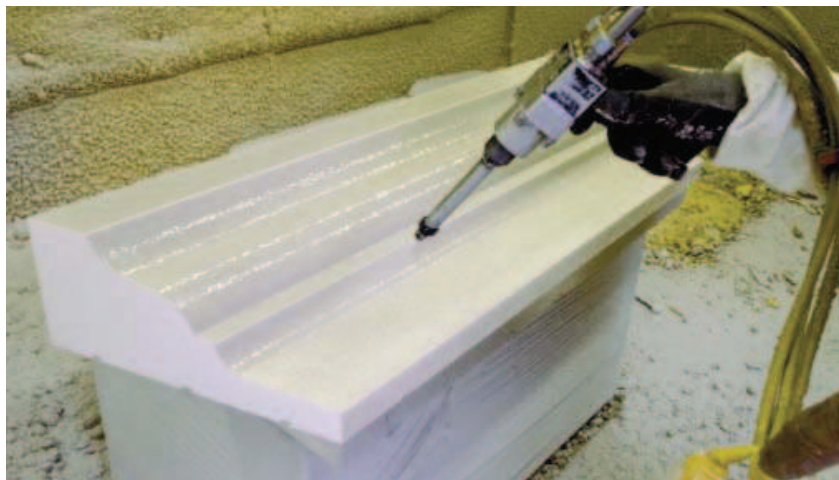
CHARACTERISTICS

- Core of blown-out polystyrene
- Finishing of quartz sand, with addition of water-based materials joined by acrylates

Type 2008 lightened blank samples are made by hand using old techniques for such modern materials as blown-out polystyrene with the addition of revetment of quartz sand and water-based materials joined by acrylates. This type of processing gives the product unique characteristics, such as flexibility and finishing of value. These represent important advantages for those who want to decorate the face walls of a new building or a one to reconstruct. The revetment is applied and polished with a template from 1.5 to 2.5 mm. This processing technique ensures a constant and equal image of all the parts which is a clear advantage during the laying.

The 2008 type is made according to a drawing of parts with the maximum length of 2000 mm.

WAYS OF EXECUTION



WAYS OF EXECUTION



TO APPLY A LIGHTENED BLANK SAMPLE CORRECTLY IT IS IMPORTANT TO KNOW SOME CHARACTERISTICS OF THE PRODUCT. THEREFORE, IT IS STRONGLY RECOMMENDED TO TAKE A LOOK AT THE MANUAL FOR LAYING GIVEN ON OUR WEB SITE WWW.ARBLOC.COM IN THE SECTION DOWNLOAD.

THERMIC EXPANSION

The thermic expansion of blown-out polystyrene is higher than stone metals that are usually used in construction. The factor varies from $5 \cdot 10^{-5}$ to $7 \cdot 10^{-5}$, with a thermic shift of 30° and the difference can be 1 mm by 1 m of length. This should be taken into consideration during erection.

IMPACT RESISTANCE

Lightened blank samples have been checked for accidental impacts that could damage them. One of the risks are hails: a hailstone of 20 mm in diameter at a speed of 70 km/h has a motion energy of 0,73 J in the perpendicular fall. Any type of a lightened blank sample has a blow resistance according to the norm UN EN 13498.

HAILSTONES

Hailstones can acquire a high speed when they meet a descending wind in the cumulo-nimbus, often a speed of 50 - 100 km/h.

In the following table we have calculated motion energy in Joule against the diameter of a hailstone and its fall speed, according to the formula $E=m \cdot V^2 \cdot 0.5$

CALCULATION OF MOTION ENERGY OF A HAILSTONE

DIAMETER OF HAILSTONE IN CM	SPEED IN KM/H OR M/S								
	m/s	8,3	11,1	13,9	16,7	19,4	22,2	25,0	27,8
1		0,017	0,030	0,046	0,067	0,091	0,119	0,150	0,185
1,5		0,056	0,100	0,156	0,225	0,306	0,400	0,506	0,625
2		0,133	0,237	0,370	0,533	0,726	0,948	1,200	1,482
2,5		0,260	0,463	0,724	1,042	1,418	1,852	2,344	2,894
3		0,450	0,800	1,250	1,801	2,451	3,201	4,051	5,001
3,5		0,715	1,271	1,986	2,859	3,892	5,083	6,433	7,942
4		1,067	1,897	2,964	4,268	5,809	7,587	9,603	11,855

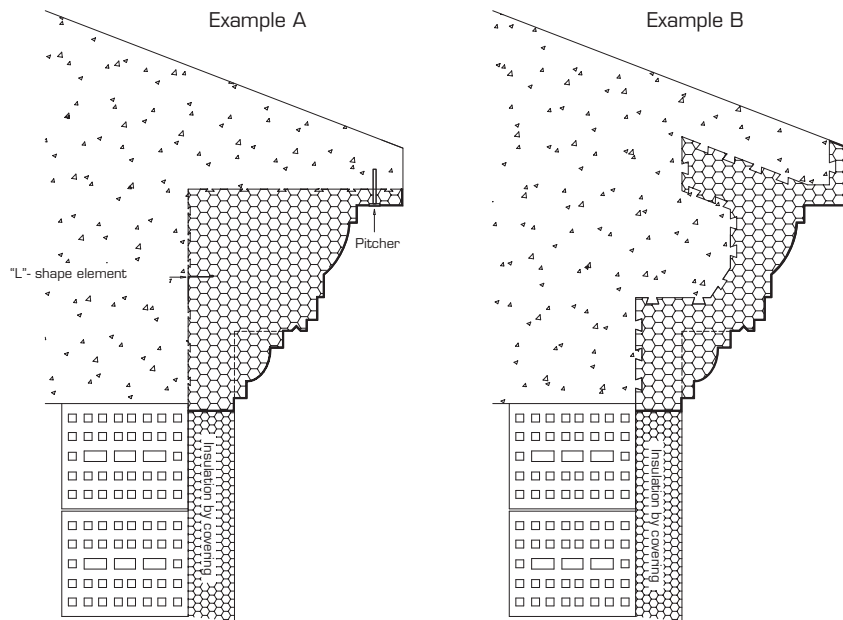
The mass of a hailstone has been calculated 917gr/dm³.

2004 TYPE LIGHTENED BLANK SAMPLES	
Description	The 2004 type lightened blank sample with the core of blown-out polystyrene with revetment of a mixture of white cement, quicklime and resin. The surface is reinforced with a net of glass fibre.
Production technology	1 Cut of blown-out polystyrene. 2 Revetment of glass fibre. 3 Revetment of the solution by extrusion.
Blown-out polystyrene	Density 20 kg/mc of RF type (belated flame propagation).
Reinforcement	Net in glass fibre of 60 gr/ m ² .
Revetment	Mixture of white cement, quicklime, and resin. Density varies from 1 to 2 mm.
Impact resistance - breach functioning in Joule	Revetment density 2 mm: 0.75 J Revetment density 3 mm: 1.10 J Revetment density 4 mm: 1.50 J
Thermic dilatation λ of EPS	$\lambda = 5 \cdot 10^{-5} - 7 \cdot 10^{-5}$

2006 TYPE LIGHTENED BLANK SAMPLE	
Description	The 2006 type lightened blank sample with the core of blown-out polystyrene and revetment of polyurethane resin and marble filling.
Production technology	1 Cut of blown-out polystyrene. 2 Revetment of resin and marble by sprinkling technique.
Blown-out polystyrene	Upon request one can choose a density of 20, 30, 40, or 50 kg/mc RF (belated flame propagation).
Reinforcement	It is only supposed to give additional mechanic resistance to the surface. A net of glass fibre from 80 gr/m ² to 160gr/m ² .
Revetment	Compact polymer that consists of a bicomponent polyurethane system and marble fine chip 1.2-1.4 mm thick.
Impact resistance - breach functioning in Joule by a revetment 1.4 mm thick.	Density EPS 20 kg/m ³ 0,75 J Density EPS 20 kg/m ³ + glass fibre 100 g/m ² 1,20 J Density EPS 30 kg/m ³ 0,95 J Density EPS 30 kg/m ³ + glass fibre 100g/ m ² 2,00 J
Thermic dilatation λ of EPS	$\lambda = 5 \cdot 10^{-5} - 7 \cdot 10^{-5}$

2008 TYPE LIGHTENED BLANK SAMPLES	
Description	The 2008 type lightened blank sample with the core of blown-out polystyrene and revetment of quartz sand, with addition of water-based materials joined by acrylates.
Production technology	1 Cut of blown-out polystyrene. 2 Revetment of the solution by extrusion.
Blown-out polystyrene	Density 20 kg/mc of RF type (belated flame propagation).
Reinforcement	Not included.
Revetment	Solution of quartz sand, with addition of water-based materials joined by acrylates. Density varies from 1 to 2 mm.
Impact resistance, trace depth in mm by the revetment of 2.0 mm	Impact of 0.4 J trace depth 1.0 mm Impact of 0.5 J trace depth 1.3 mm Impact of 1.0 J trace depth 1.6 mm Impact of 1.5 J trace depth 2.7 mm
Thermic dilatation λ of EPS	$\lambda = 5 \cdot 10^{-5} - 7 \cdot 10^{-5}$

laying of pre-built lightened principal cornice



In the works of reconstruction the laying of lightened blank samples of principal cornices should be done as illustrated in **example A**. In such cases special measures should be taken to facilitate adhesion taking into consideration different situations that depend on a building yard. The glue should perfectly stick the polystyrene to the wall. To obtain this result pitchers and special "L"-hooked frames should be used to facilitate the pressure of lightened blank samples against the wall, especially during the first couple of hours after the laying when the glue is not strong yet.

In the works of construction of new buildings we suggest the laying as in **example B**. The lightened blank sample is joined to the concreting of the camp ceiling or perimetritic girt strip of the building. To ensure high pressure during concreting the cement should be applied to the polystyrene perfectly to obtain higher adhesion on all the surface of the a blank sample and higher stability against the impact of thermic dilatations.

EXAMPLE OF JOINING OF A LIGHTENED BLANK SAMPLE TO THE CONCRETING OF THE CAMP CEILING



Lightened blank samples are cut according to a drawing to satisfy the demands of the project.



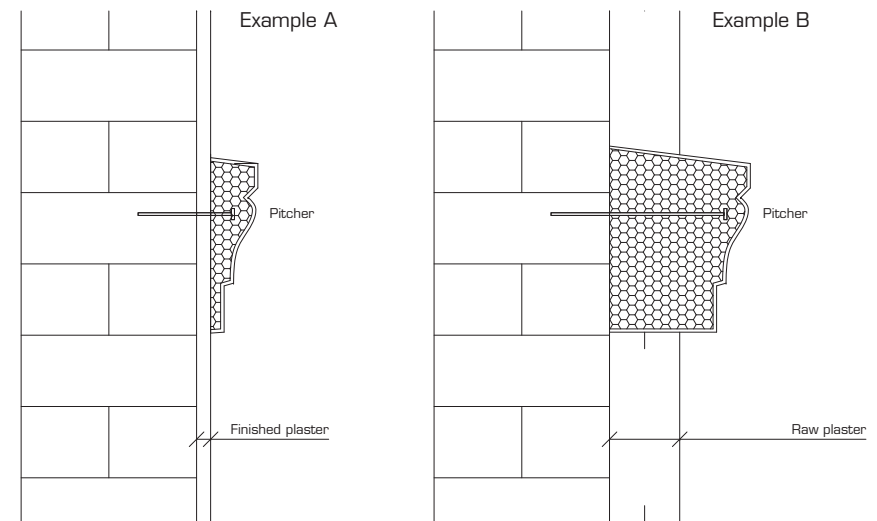
Lightened blank samples are placed on the negative and glued to each other by the heads.



In addition a net of glass fibre 10 cm long is attached.

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floor markers laying



In the cases when floor markers are attached to the finished plaster (**example A**) the scraper should be applied to the entire surface of the polystyrene and pitchers should be used to maintain pressure of the blank samples against the wall in the first hours when the glue is not string yet.

Further sealing of joints is done with silicone with permanent flexibility and high adhesion qualities on different materials. Check that the plaster of the wall has a good consistence. Some plasters are generally insufficient and more fragile than the scraper used as a glue to attach the lightened blank samples one to another. Possible breaches may be caused by the quality of the plaster used. Therefore, it is recommended to use special glues for walls.

In new buildings or when the cover is insulated it is recommended to apply the blank sample directly to the wall as in **example B** because the background surface has a higher consistence and the gluing results stronger.

SALIENT ANGLE OF GLASS FIBRE

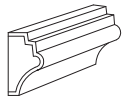


Lightened blank samples can be produced upon request with a salient angle made of glass fibre to match different materials. This prevents breaches or cracks in the joints caused by various thermic dilatations of the materials.

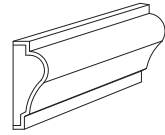
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window frames

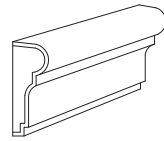
window frames



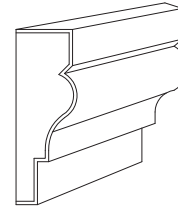
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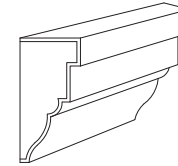
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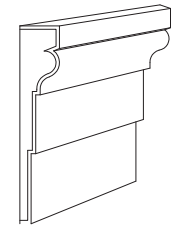
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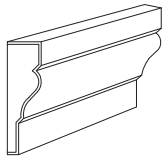
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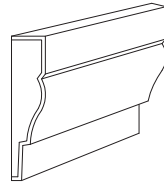
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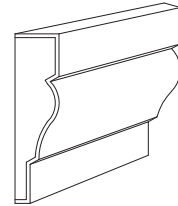
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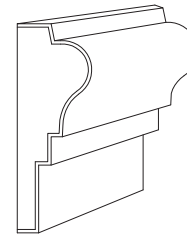
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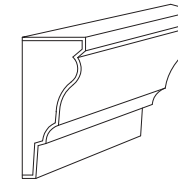
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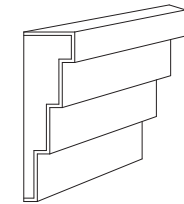
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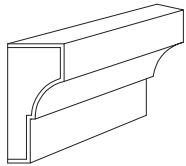
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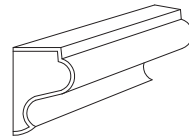
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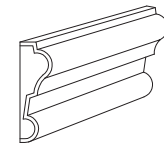
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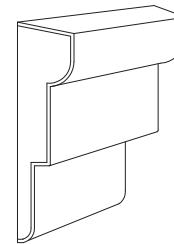
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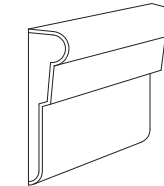
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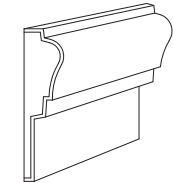
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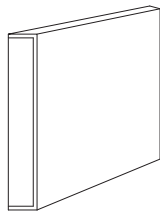
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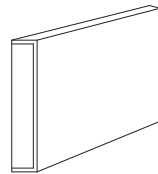
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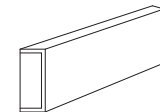
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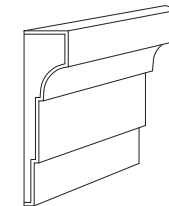
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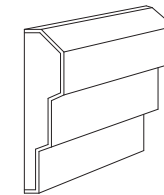
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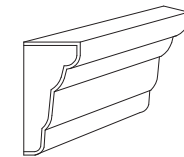
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mod. F 501: H155 - S39



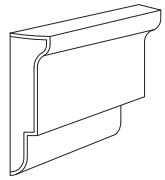
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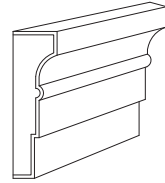
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window frames

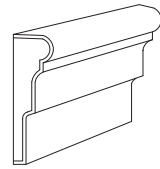
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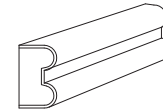
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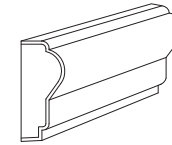
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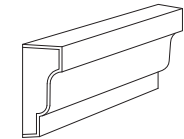
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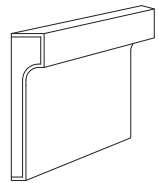
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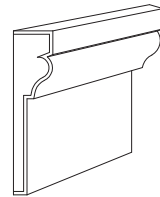
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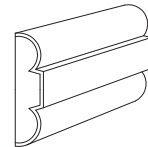
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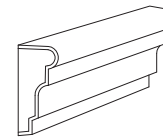
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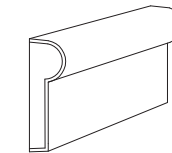
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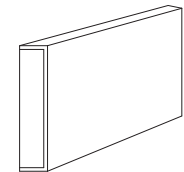
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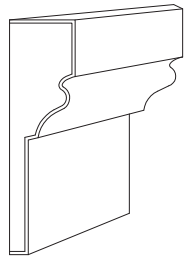
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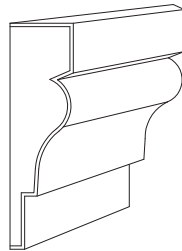
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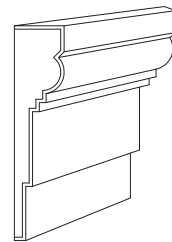
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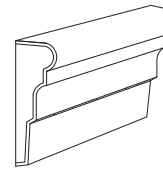
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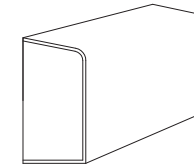
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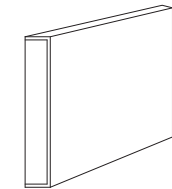
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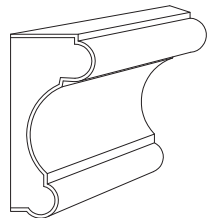
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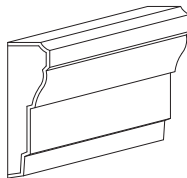
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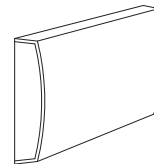
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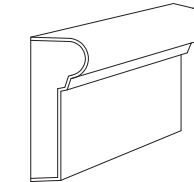
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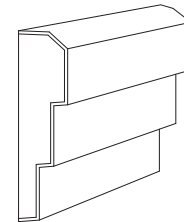
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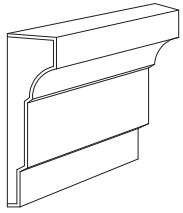
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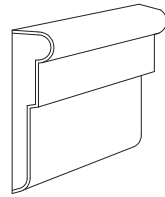
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window frames

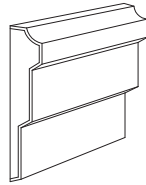
window sills



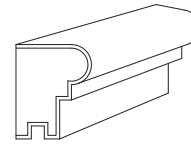
mod. AP 1034: H138 - S40



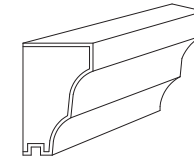
mod. AP 1036: H136 - S35



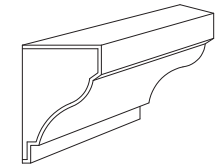
mod. AP 1038: H142 - S29



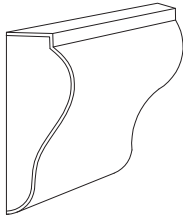
mod. F 605: H80 - S64



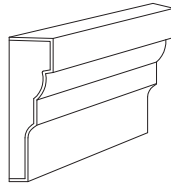
mod. F603: H96 - S 60



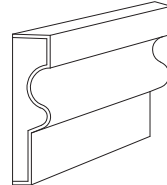
mod. F 629: H100 - S67



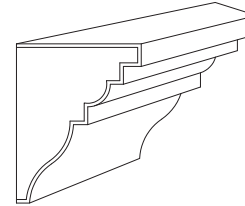
mod. AP 1040: H145 - S56



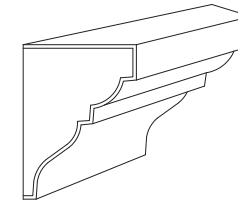
mod. AP 1042: H115 - S35



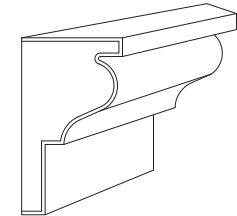
mod. AP 1044: H120 - S30



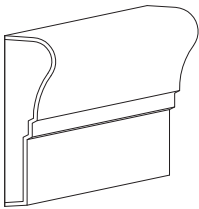
mod. F 522: H134 - S105



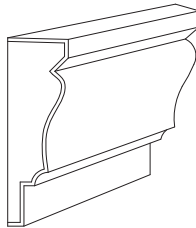
mod. F 522/A: H131 - S96



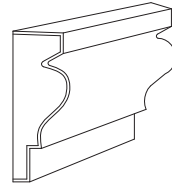
mod. F 613: H151 - S86



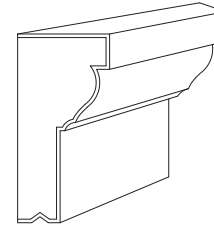
mod. AP 1046: H132 - S39



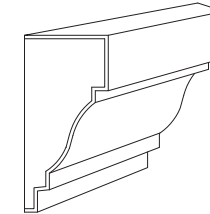
mod. AP 1048: H140 - S45



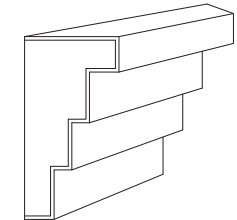
mod. AP 1050: H135 - S52



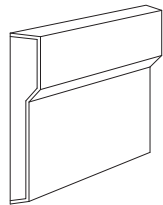
mod. F 604: H160 - S78



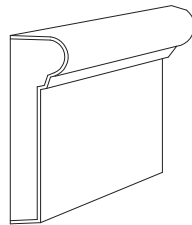
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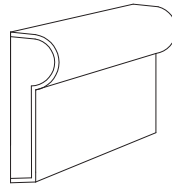
mod. F 614: H155 - S80



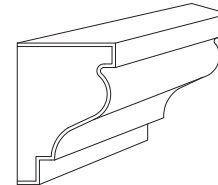
mod. AP 1052: H136 - S25



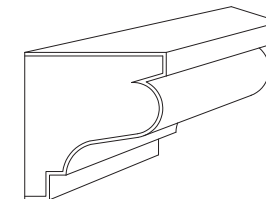
mod. AP 1054: H150 - S46



mod. AP 1056: H120 - S40



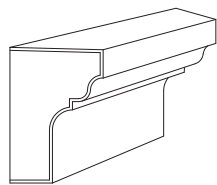
mod. F 533: H121 - S81



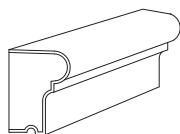
mod. F 611: H125 - S120

window sills

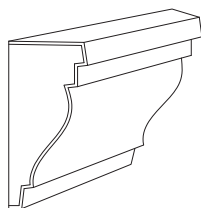
floor markers and bases



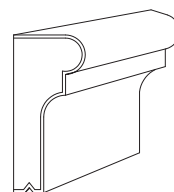
mod. RA 2010: H155 - S79



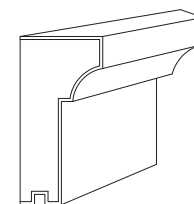
mod. RA 2012 : H70 - S50



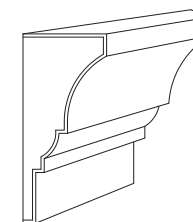
mod. RA 2014: H142 - S67



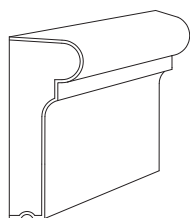
mod. F 521: H152 - S69



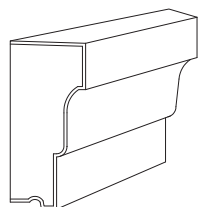
mod. F 520: H163 - S80



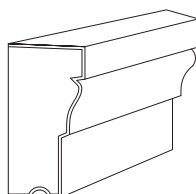
mod. F 523: H179 - S79



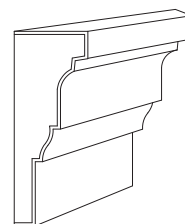
mod. RA 2016: H154 - S63



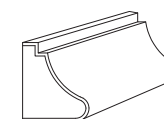
mod. RA 2018: H145 - S66



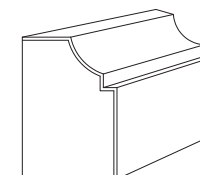
mod. RA 2020: H 130 - S65



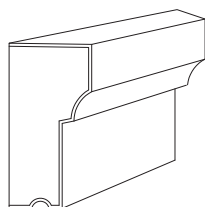
mod. F 509: H185 - S70



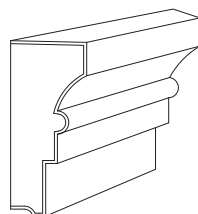
mod. F 606: H76 - S64



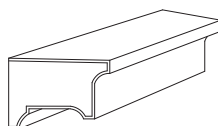
mod. F 608: H130 - S90



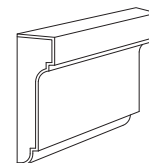
mod. RA 2022: H140 - S70



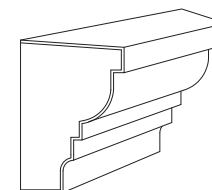
mod. RA 2024: H150 - S65



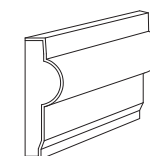
mod. RA 2026: H60 - S85



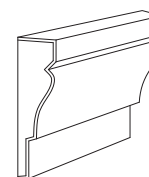
mod. CV 3010: H125 - S36



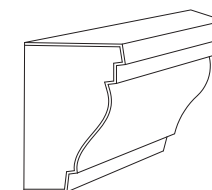
mod. CV 3012: H145 - S100



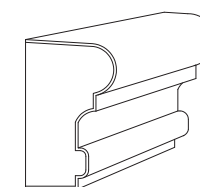
mod. CV 3014: H115 - S36



mod. CV 3016: H135 - S35



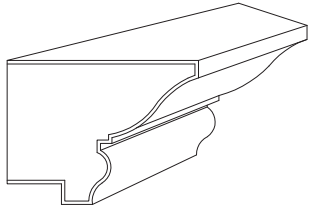
mod. CV 3018: H142 - S96



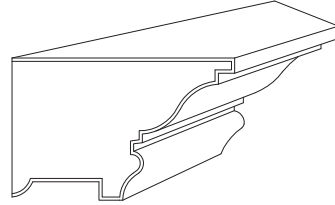
mod. CV 3020: H142 - S86

cornices

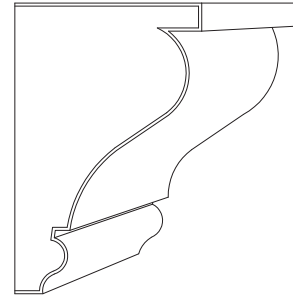
cornices



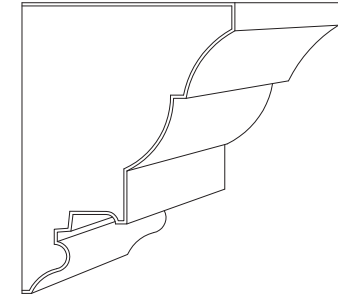
mod. F 631: H125 - S166



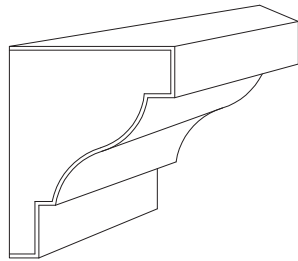
mod. F 610: H131 - S205



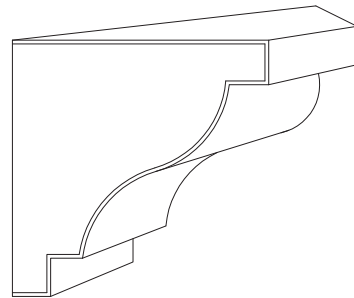
mod. F 621: H280 - S180



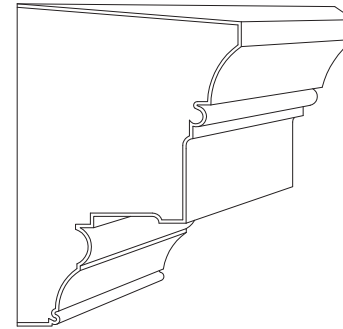
mod. F 623: H180 - S205



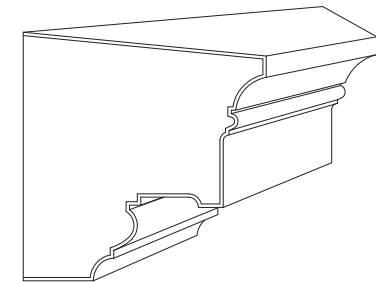
mod. F 612: H165 - S129



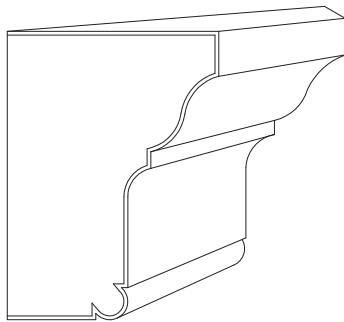
mod. F 633: H131 - S250



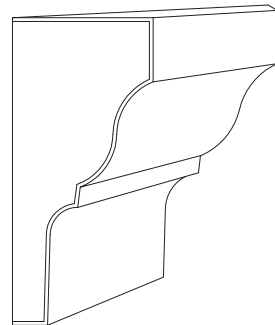
mod. F 619: H286 - S200



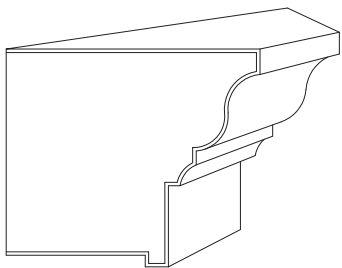
mod. F 622: H220 - S215



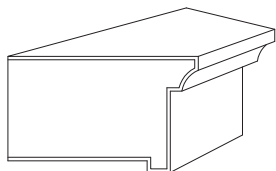
mod. F 620: H225 - S165



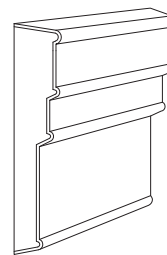
mod. F 618: H245 - S112



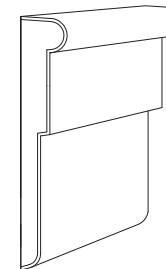
mod. F 400/A: H188 - S219



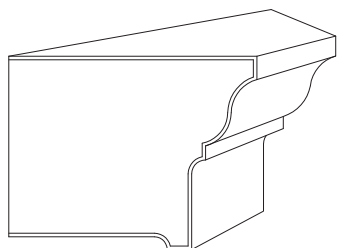
mod. F 400/B: H100 - S164



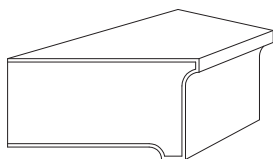
mod. BV 3022: H200 - S41



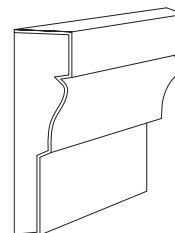
mod. BV 3424: H220 - S40



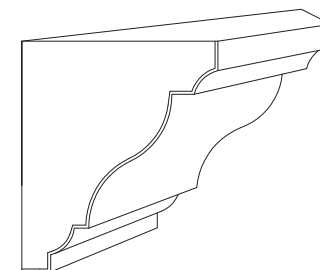
mod. F 401/A: H166 - S213



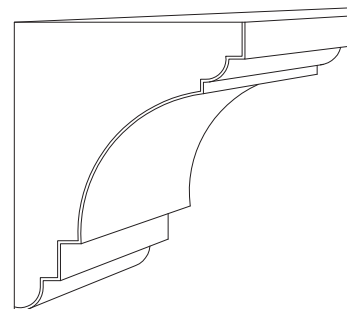
mod. F 401/B: H89 - S169



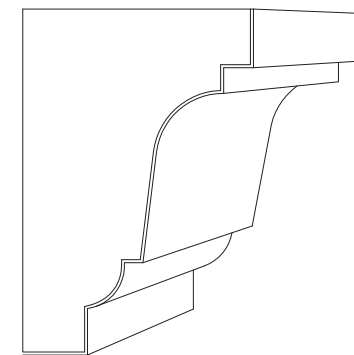
mod. BV 3426: H180 - S50



mod. BV 4012: H200 - S170

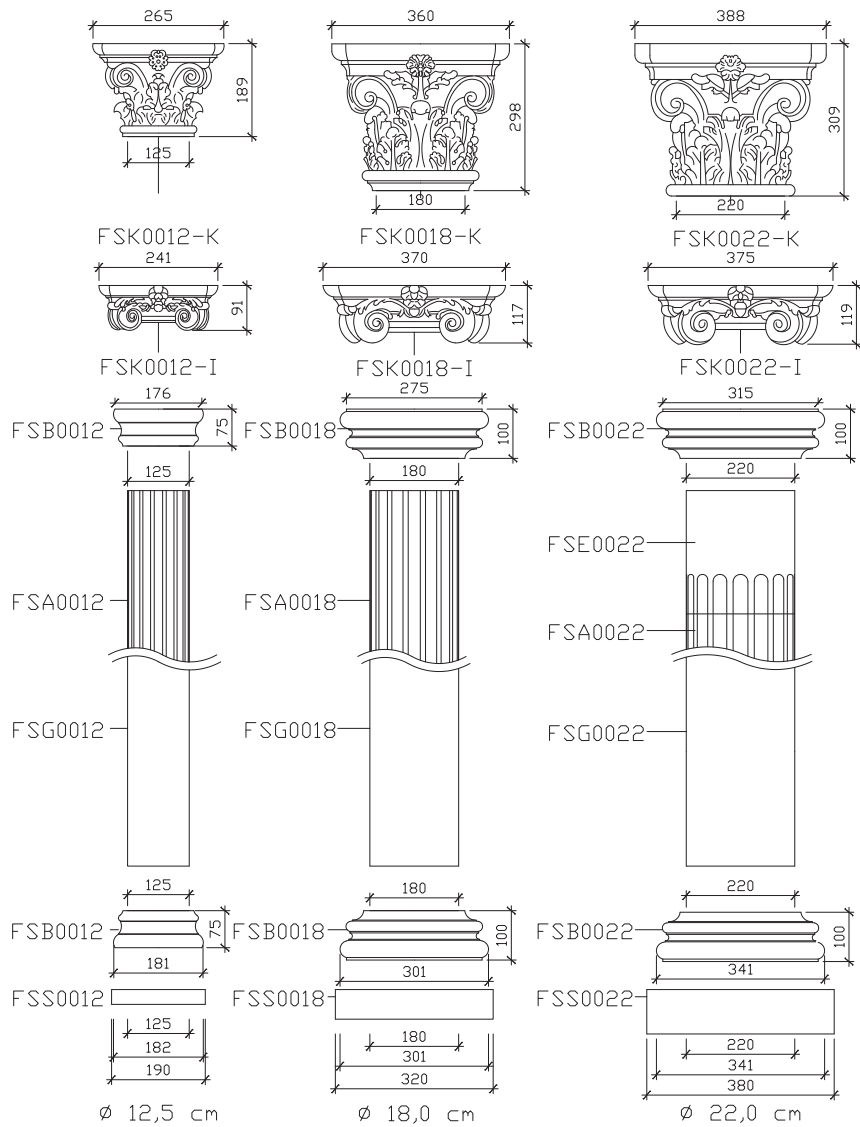


mod. BV 4014: H250 - S200



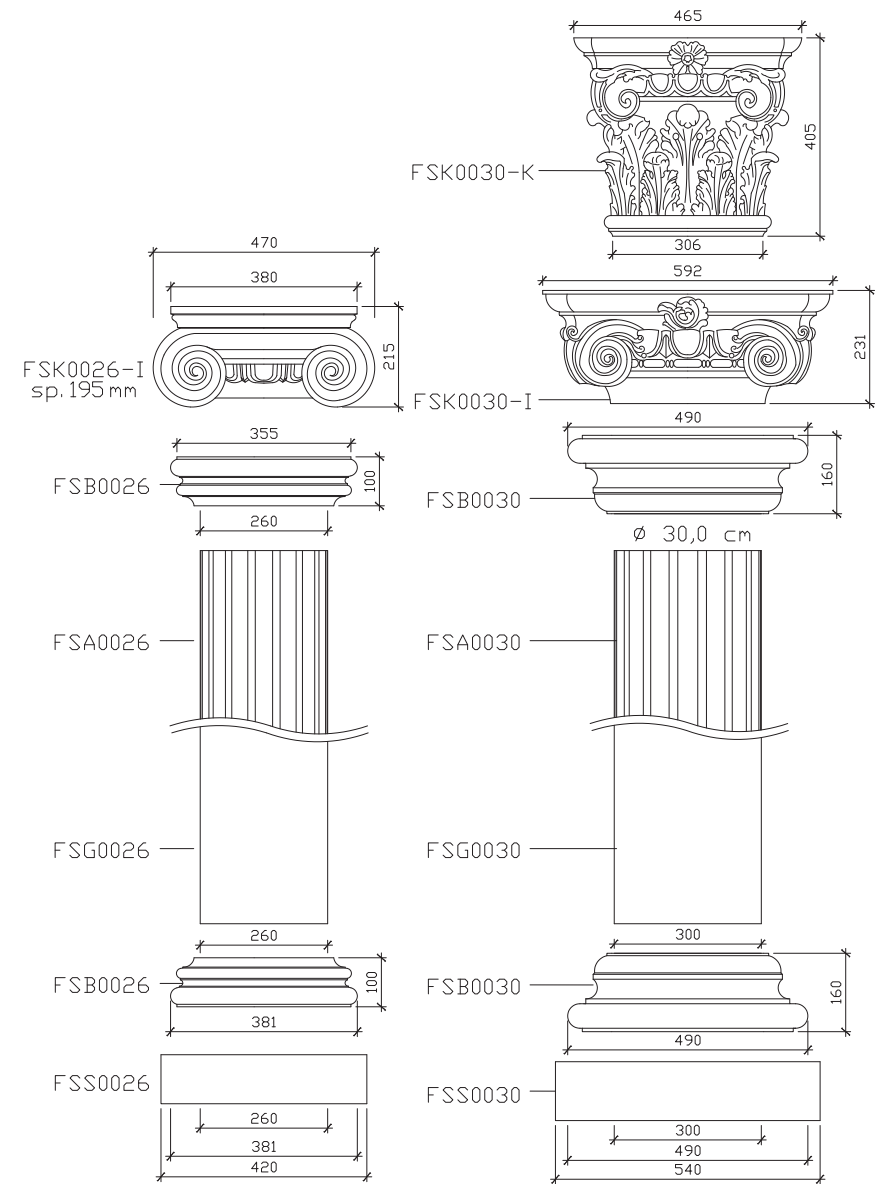
mod. BV 4010: H300 - S200

columns and accessories

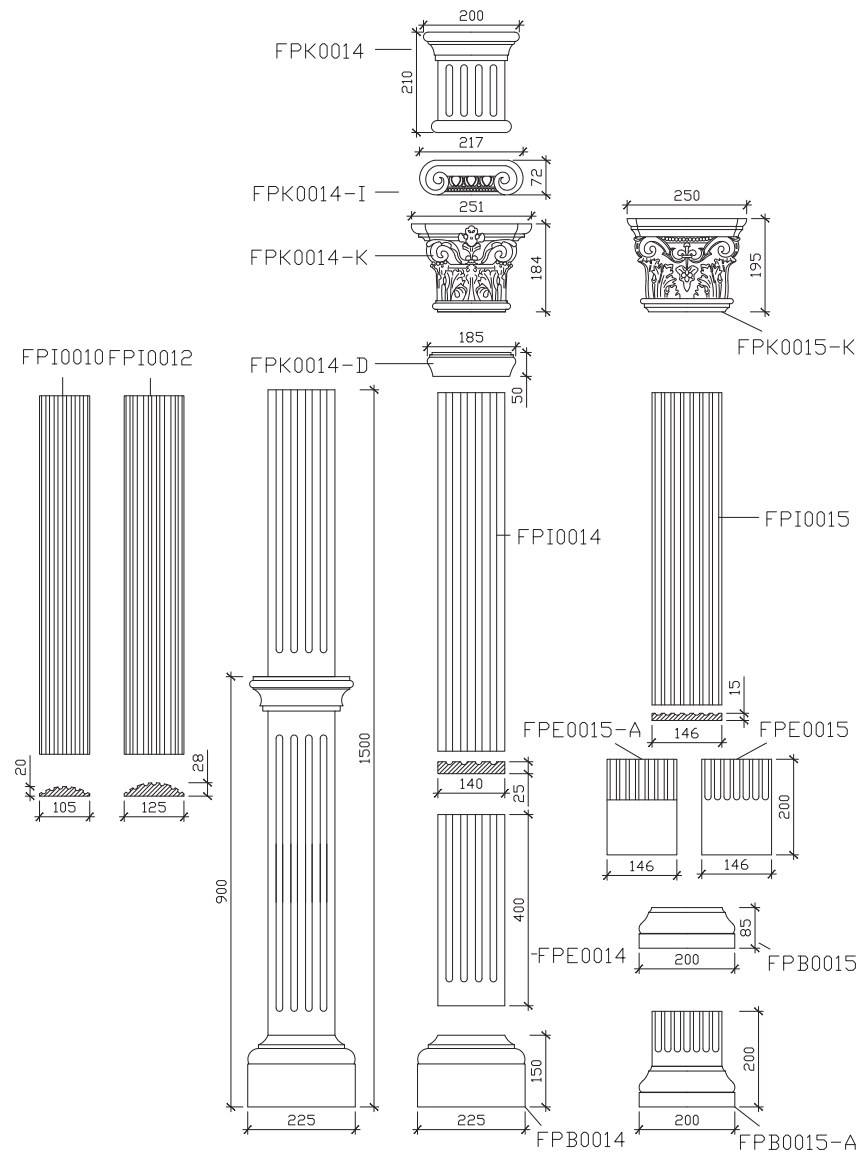


PILASTER BALKS ARE MADE OF LIGHTENED BLANK SAMPLES WHILE CAPITALS AND BASES ARE MADE OF CEMENT.
 THE ELEMENTS ARE PROVIDED IN SUFFICIENCY AND ARE ATTACHED AND GLUED ON THE BUILDING YARD.
 THE LIGHTENED BLANK SAMPLES ARE FOR DECORATIVE USE AND ARE NOT STRUCTURAL ELEMENTS.

columns and accessories



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columns and accessories

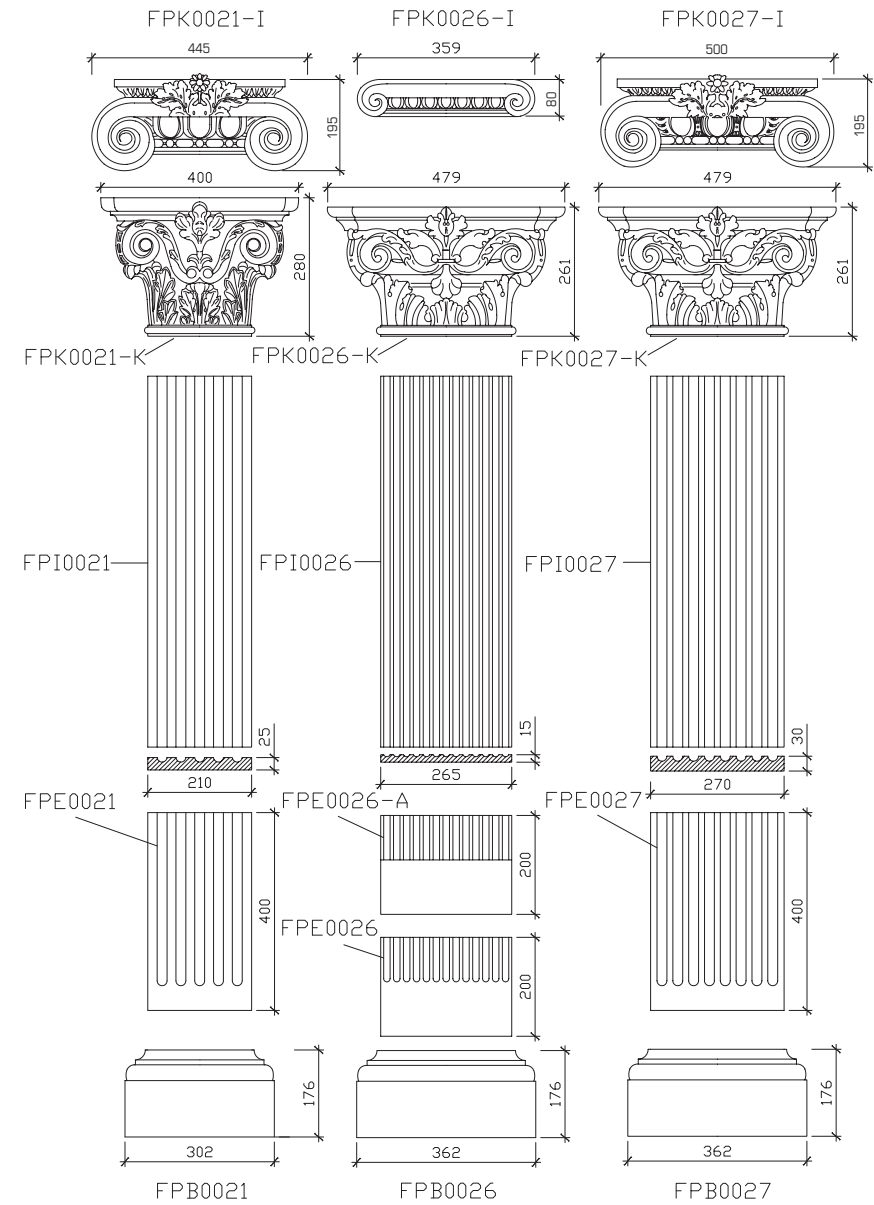


photo gallery

