

## EVO-TECH, EXPERTS IN RUBBER

Evo-Techs excellent reputation for offering Rapid Technical Solutions - with the Development, Manufacturing and Quality Support You would expect - has helped create the Experienced, Innovative and Focused Team that we have today. With a wide range of materials and manufacturing methods we have the resources to produce the articles You need. We believe in continuity and close relations - this might be why our costumers find themselves at home when they visit.



### RUBBER GATE SEALS FROM EVO-TECH

Rubber gate seals from Evo-Tech are extruded in EPDM, SBR and Nitrile rubber compound. The advantage of the extruded, over the moulded seals, lies above all in the lower tool costs and more economical methods of production - also any length can be obtained without joints.

In this catalogue You will find a selection of our standard seals with an enquiry form where You may enter your desired (bespoke or specific) dimensions. In total we have more than 1.000 different dies at your disposal.

### MATERIAL

Over the past 25 years more products are supplied in EPDM and our experience in this material, especially in the severe conditions for hatch seals in the shipping industry, has given us a complete understanding of the dynamic properties of EPDM. Specifications of the materials

### FRICITION

One of the problems of rubber profiles working in compressed conditions is friction. The solution to this has over many years been to coat the gate seal with PTFE (Teflon) and the cost of this has been very high, especially on moulded products.

Our patented TCT-coating system means that we can apply our anti-friction TCT-coating consistently and continuously over the full length of our seal.

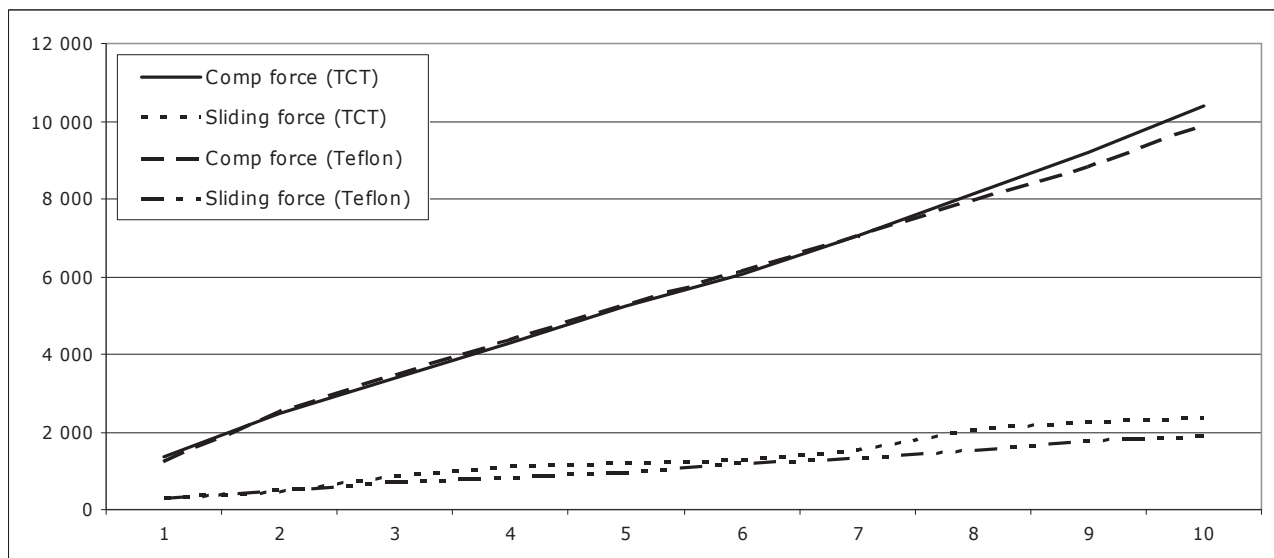
## Low Friction Surface – TCT

We use a patented method to obtain an excellent low friction surface: TCT™  
(*Thermal Chemical Treatment*)

- + **Applicable on any profile of EPDM**
- + **Applied continuously**
- + **Excellent resistance to abrasion**
- + **Low cost**
- + **No change of rubber properties**
- + **Easy to pack even in rolls**
- + **Could be applied on any surface:  
concaved, convexed, small or large.**
  
- **Slightly higher coefficient of friction than  
PTFE (Teflon). See diagram and graph.**

Comparison: Profile J-seal Ø45mm, Material: EPDM 11165  
60mm between steel bars (R=5mm)  
Test velocity: 120 cm/min

Compression mm	TCT			TEFLON		
	Compr.force N/m	Sliding Force N/m	Friction	Compr.force N/m	Sliding force N/m	Friction
1	1373	275	0,20	1236	294	0,24
2	2472	451	0,18	2531	481	0,19
3	3394	883	0,26	3453	697	0,20
4	4277	1099	0,26	4356	814	0,19
5	5219	1177	0,23	5278	955	0,18
6	6082	1275	0,21	6161	1199	0,19
7	7063	1511	0,21	7063	1302	0,18
8	8142	2060	0,25	7966	1540	0,19
9	9202	2256	0,25	8829	1760	0,20
10	10379	2354	0,23	9908	1892	0,19
	<b>Mean value of the coefficient of friction: 0,23</b>			<b>Mean value of the coefficient of friction: 0,20</b>		



## Rubber Compounds

In hydraulic steel construction the following material specifications for seals in EPDM or SBR are internationally used:

Physical properties	Test methods	EPDM	SBR	SBR
		11164	3165	3167
<b>Hardness Shore A</b>	ISO 7619:1997	65 ±5	65±5	65±5
<b>Tear resistance</b>	ISO 34	37	39	39
<b>Elongation at break</b>	ISO 37	350	550	350
<b>Tensile strength MPa</b>	ISO 34	12,5	22,1	16,5
<b>Aging resistance</b> 1=Very good 2=Good 3=Not good	ASTM D3395-99	1	2	2
<b>Water absorption</b> Max. 5% of the weight	ISO 113	3	5	5
<b>Compression set %</b> 70°C 72 H	ISO 815	10	16	27,6

For special applications further EPDM and SBR compounds in various degrees of hardness can be supplied.

### Special Compounds:

Nr. 11132	EPDM	35 Shore A
Nr. 11150	EPDM	50 Shore A
Nr. 3155	SBR	55 Shore A
Nr. 11180	EPDM	80 Shore A
Nr. 4164	CR	60 ±5 Shore A
Nr. 5161	NBR	60 Shore A

**Tolerances – SS-ISO 3302-1**

<b>Moulded Seals</b>							
	Class M 1		Class M 2		Class M 3		Class M 4
	Group F	Group C	Group F	Group C	Group F	Group C	Group C & F
mm ±	mm ±	mm ±	mm ±	mm ±	mm ±	mm ±	mm ±
< 6,3	0,1	0,1	0,15	0,2	0,25	0,4	0,5
(6,3) - 10	0,1	0,15	0,2	0,2	0,3	0,5	0,7
(10) - 16	0,15	0,2	0,2	0,25	0,4	0,6	0,8
(16) - 25	0,2	0,2	0,25	0,35	0,5	0,8	1
(25) - 40	0,2	0,25	0,35	0,4	0,6	1	1,3
(40) - 63	0,25	0,35	0,4	0,5	0,8	1,3	1,6
(63) - 100	0,35	0,4	0,5	0,7	1	1,6	2
(100) - 160	0,4	0,5	0,7	0,8	1,3	2	2,5
> 160	± 0,3 %	± 0,3 %	± 0,5 %	± 0,5 %	± 0,8 %	± 0,8 %	± 1,5 %

<b>Extruded Seals</b>				
	Class E 1	Class E 2	Class E 3	Class E 4
mm ±	mm ±	mm ±	mm ±	mm ±
< 2,5	0,2	0,35	0,5	0,8
(2,5) - 4	0,25	0,4	0,7	1
(4,0) - 6,3	0,35	0,5	0,8	1,3
(6,3) - 10	0,4	0,7	1	1,6
(10) - 16	0,5	0,8	1,3	2
(16) - 25	0,7	1	1,6	2,5
(25) - 40	0,8	1,3	2	3,2
(40) - 63		1,6	2,5	4
(63) - 100		2	3,2	5

<b>Length</b>				
	Class L 1	Class L 2	Class L 3	Class L 4
mm ±	mm ±	mm ±	mm ±	mm ±
< 40	0,7	1	1,6	3,2
(40) - 63	0,8	1,3	2	4
(63) - 100	1	1,6	2,5	5
(100) - 160	1,3	2	3,2	6,3
(160) - 250	1,6	2,5	4	10
(250) - 400	2	3,2	5	12,5
(400) - 630	2,5	4	6,3	16
(630) - 1000	3,2	5	10	20
(1000) - 1600	4	6,3	12,5	25
(1600) - 2500	5	10	16	32
(2500) - 4000	6,3	12,5	20	40
> 4000	± 0,16 %	± 0,32 %	± 0,5 %	± 1 %

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**Standard Seal Types**



**J-seal**



**Double J-seal**



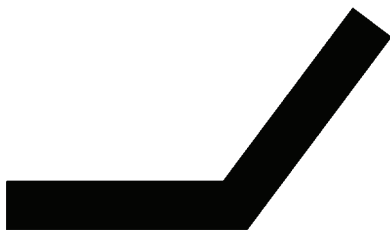
**Stem seal**



**Double stem seal**

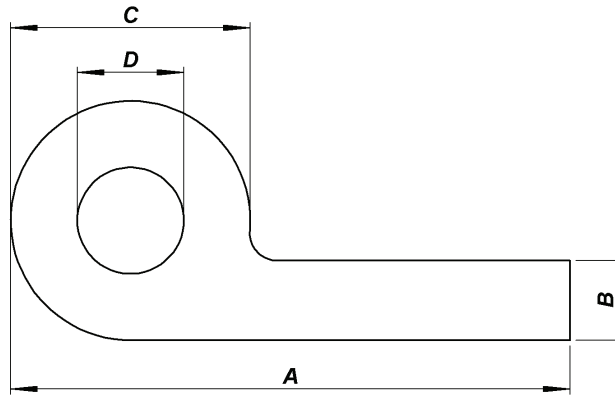


**Flat seals**



**Angel seal**

## Inquiries J-seal

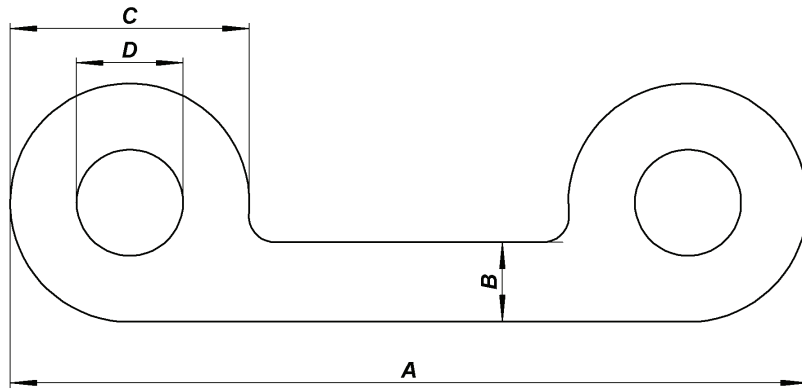


### Mass / Measurement:

<b>A:</b>		<b>C:</b>	
<b>B:</b>		<b>D:</b>	
		<b>TCT?</b>	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

All dimensions in mm.

## Inquiries Double J-seal

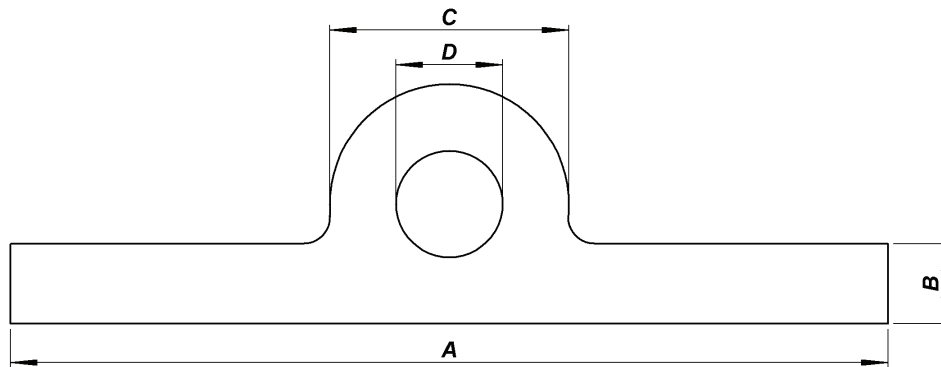


### Mass / Measurement:

<b>A:</b>		<b>C:</b>	
<b>B:</b>		<b>D:</b>	
<b>TCT?</b>	Yes:		No: <input type="checkbox"/>

All dimensions in mm.;

## Inquiries Stem-seal



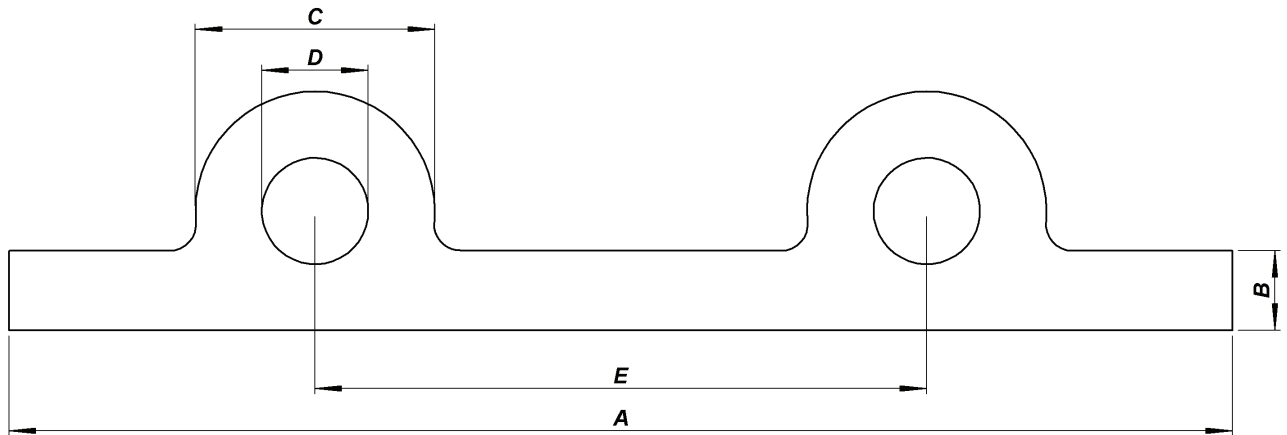
### Mass / Measurement:

<b>A:</b>		<b>C:</b>	
<b>B:</b>		<b>D:</b>	
		<b>TCT?</b>	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

All dimensions in mm.



## Inquiries Double stem-seal

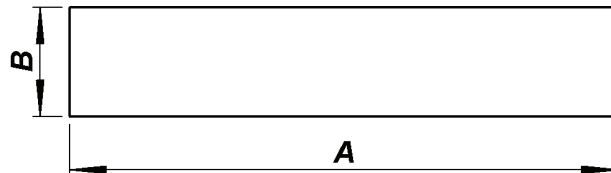


### Mass / Measurement:

<b>A:</b>		<b>D:</b>				
<b>B:</b>		<b>E:</b>				
<b>C:</b>		<b>TCT?</b>	Yes:	<input type="checkbox"/>	No:	<input type="checkbox"/>

All dimensions in mm.

## Inquiries Flat seal



### Mass / Measurement:

<b>A:</b>		<b>B:</b>	
		<b>TCT?</b>	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

All dimensions in mm.

### *Alternative shape:*

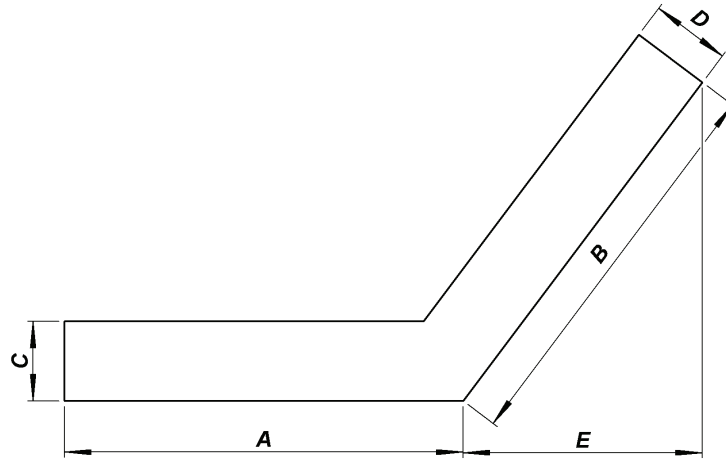
#### *Radie*



#### *Fas*



## Inquiries Angel seal

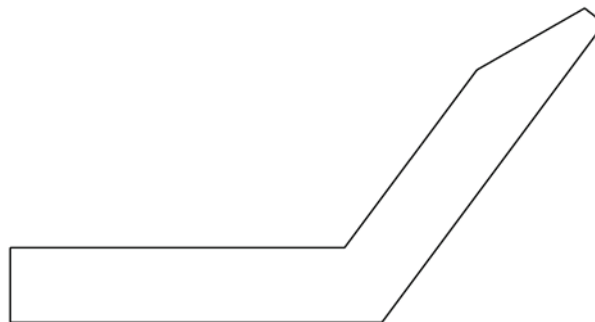


### Mass / Measurement:








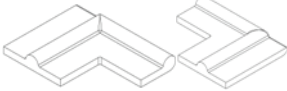
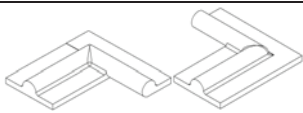
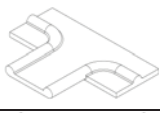

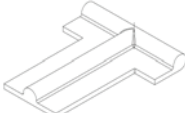
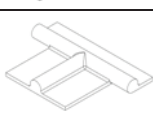




<b>A:</b>		<b>D:</b>				
<b>B:</b>		<b>E:</b>				
<b>C:</b>		<b>TCT?</b>	Yes:	<input type="checkbox"/>	No:	<input type="checkbox"/>

All dimensions in mm.

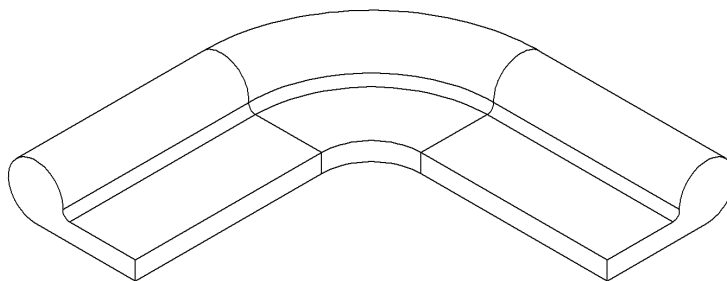
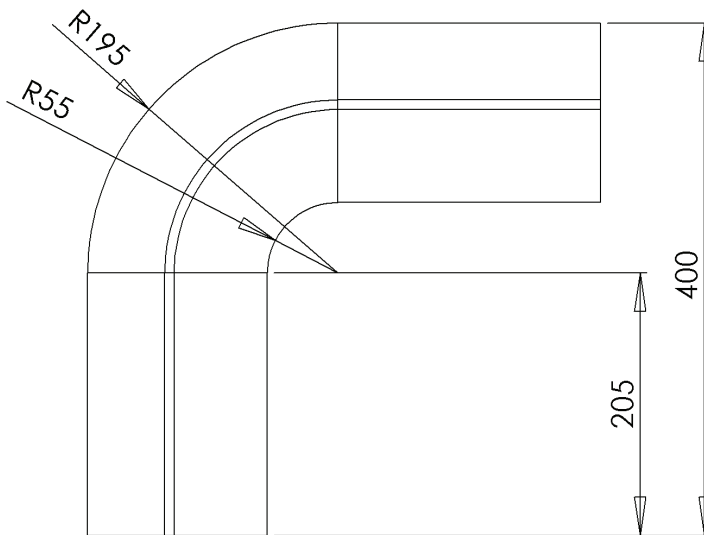
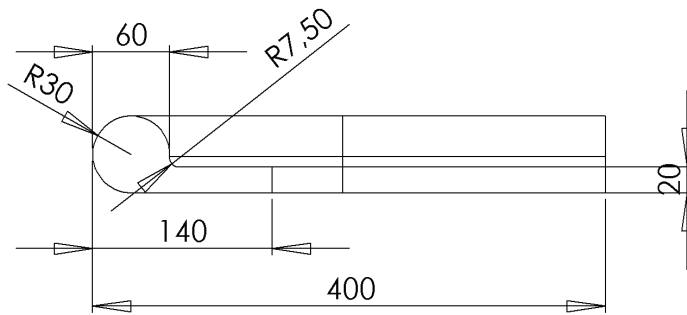
### Alternative shape:



## Cornerprofiles

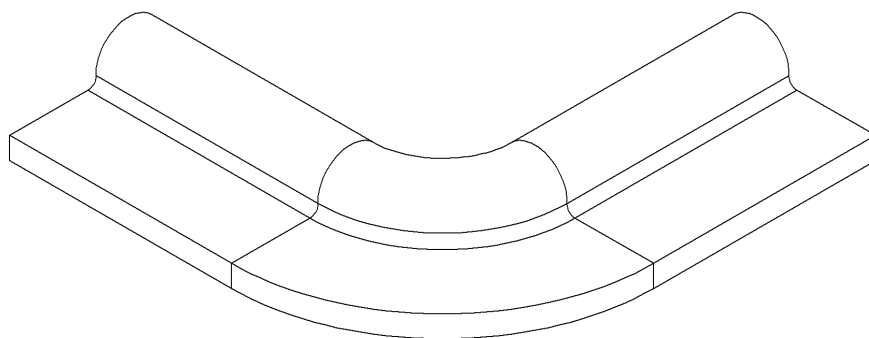
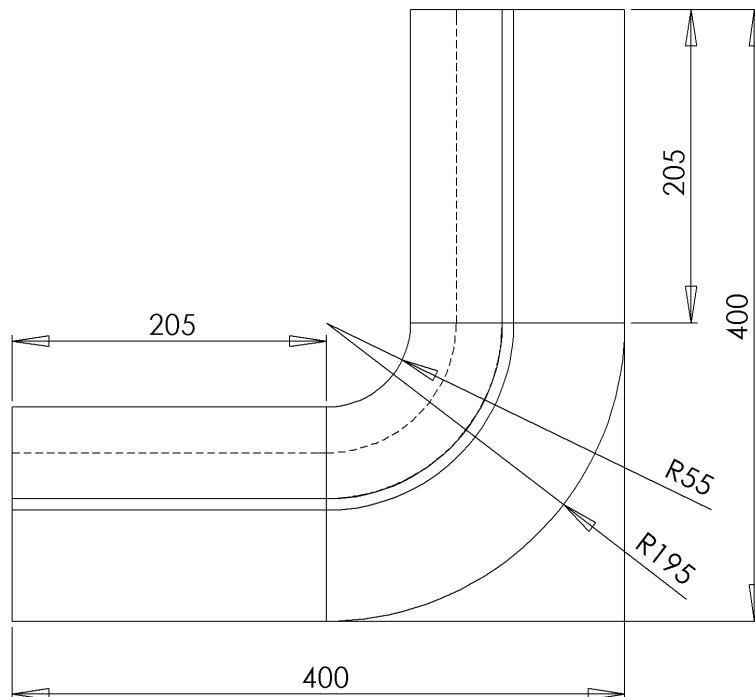
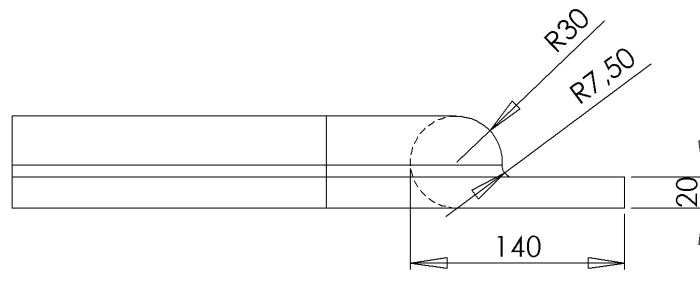
Corner		Profile	Seal Types
SN1		81993	J-seal
SN2		81993	J-seal
SN3		81488	J-seal
SN4		81320	J-seal
SN5		81533	Double J-seal
SN6		81488	J-seal
SN7		81317	Double J-seal
SN8 V+H		80534	J-seal Stem seal
SN9 V+H		80139, 83078	J-seal Stem seal
SN10			Double J-seal Stem seal
SN11		81550	J-seal
SN12		81975, 80805, 81529, 83057, 83084, 83168, 81976	J-seal Stem seal
SN13			J-seal Stem seal
SN14		81316	Double Stem seal
SN15		81317	Double J-seal
SN16		81550	J-seal
SN17 V+H		81419, 81420	Stem seal

### Cornerprofiles



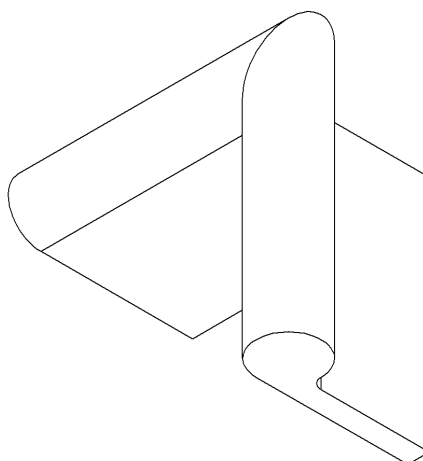
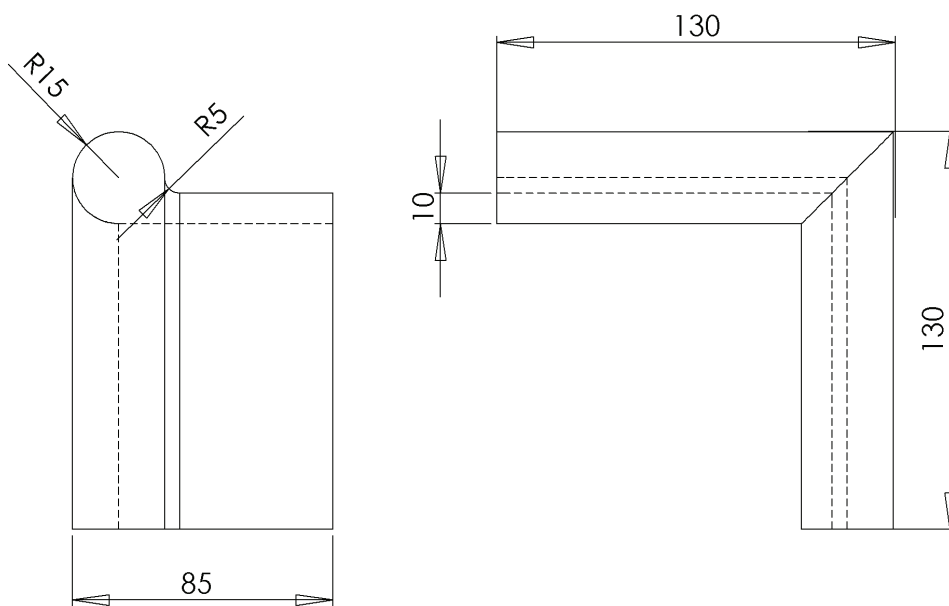
SN 1-1

## Cornerprofiles



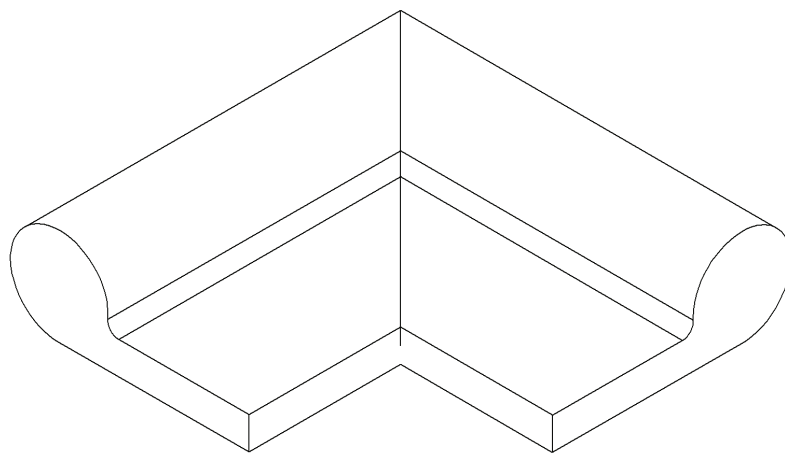
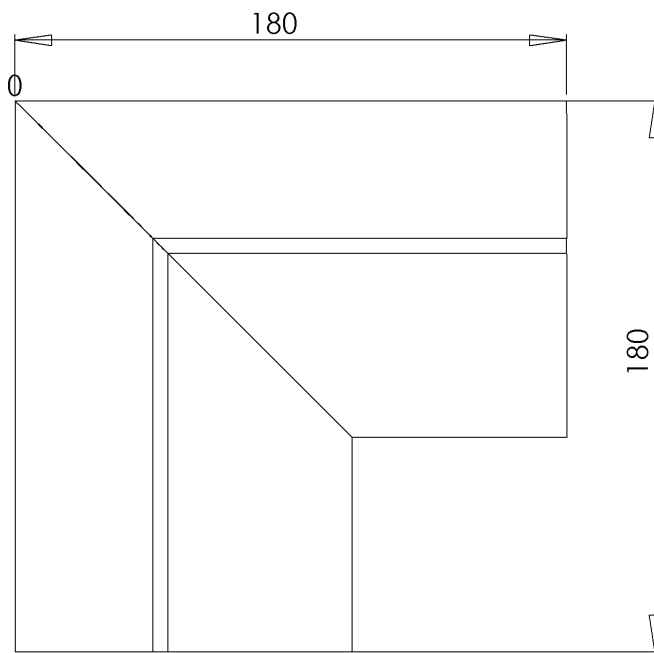
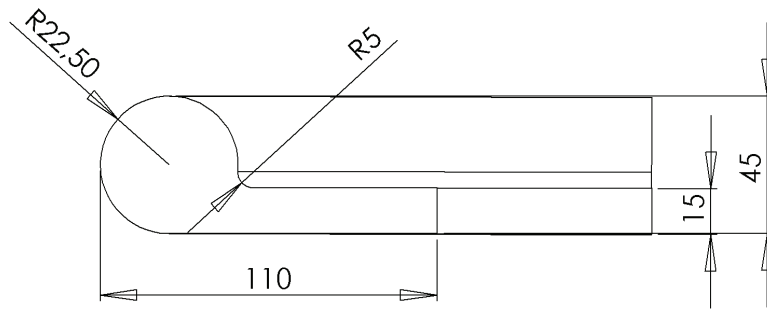
SN 2-1

## Cornerprofiles



**SN 3-1**

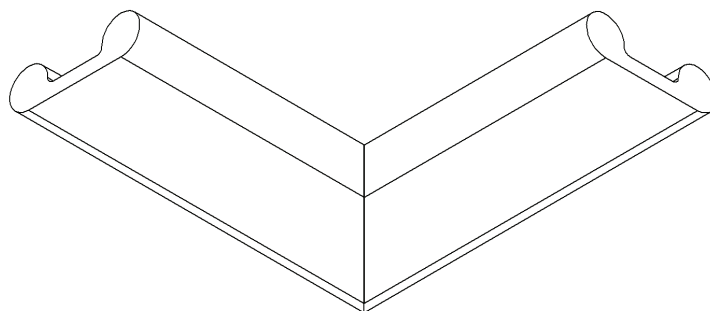
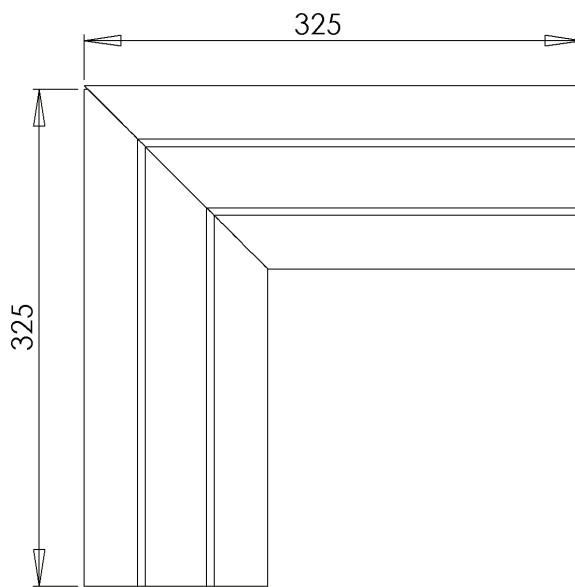
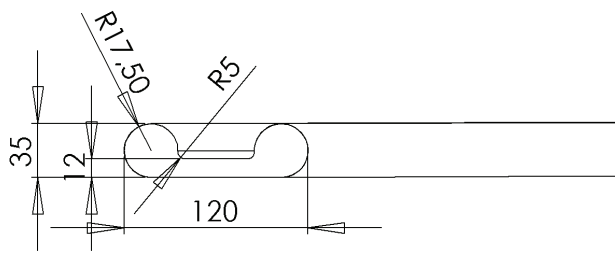
### Cornerprofiles



**SN 4-1**

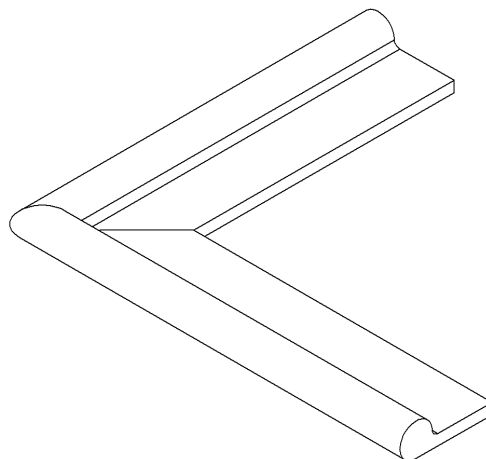
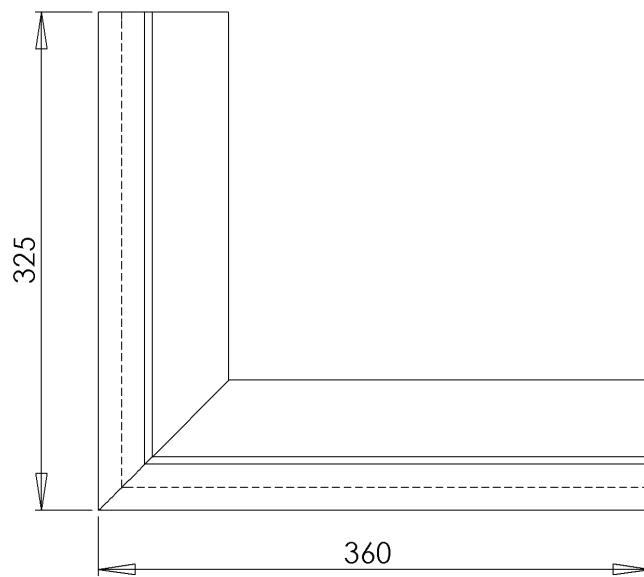
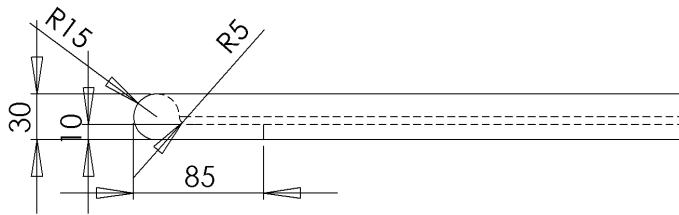


## Cornerprofiles



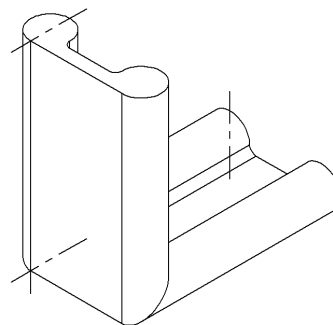
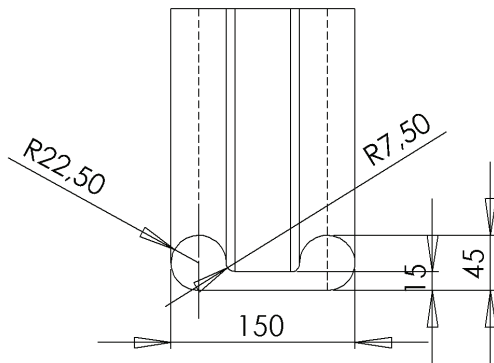
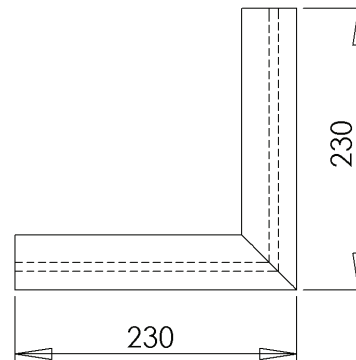
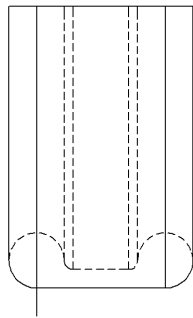
SN 5-1

## Cornerprofiles



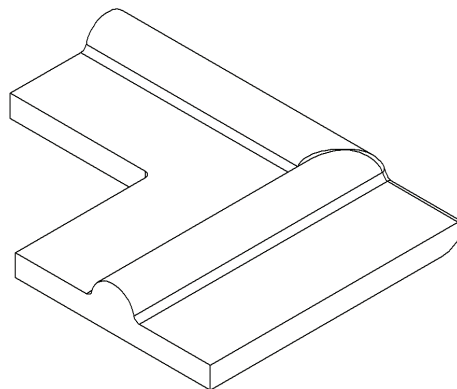
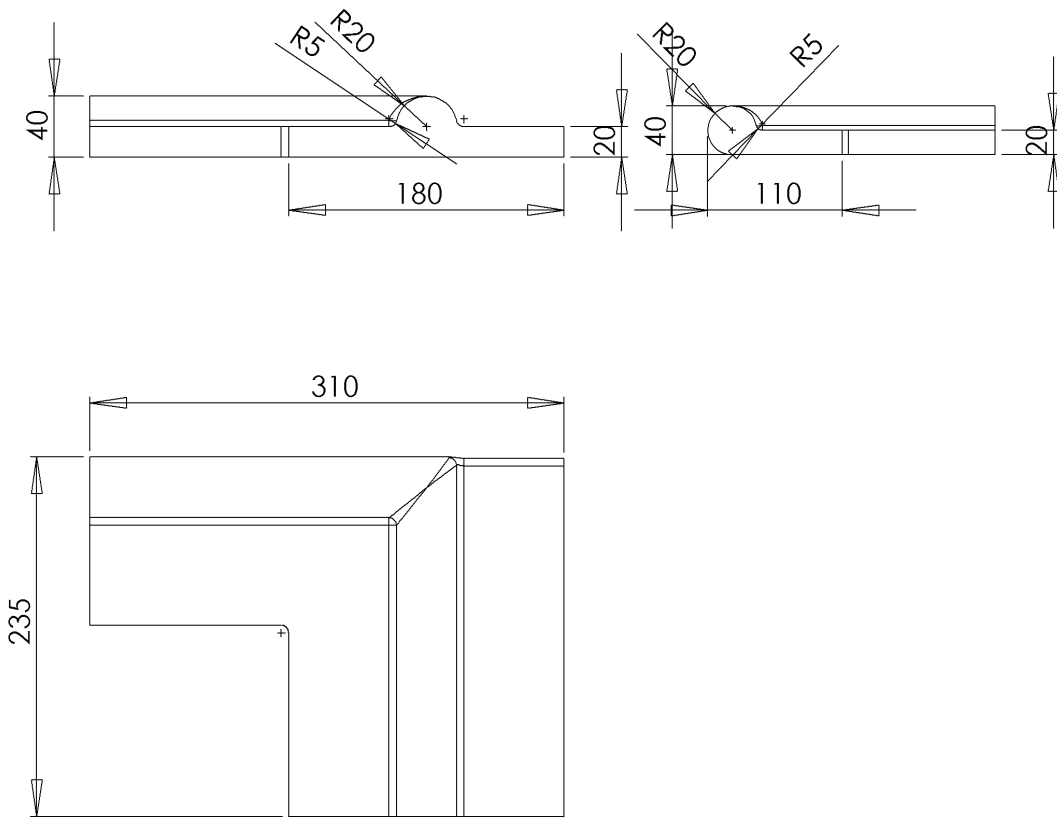
SN 6-1

## Cornerprofiles



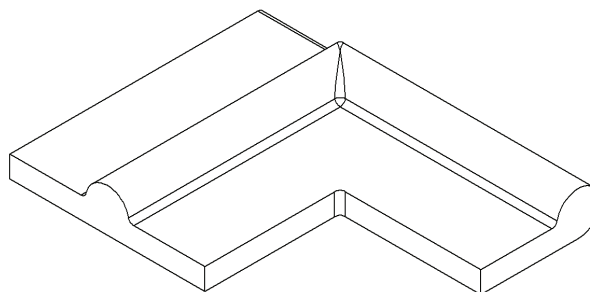
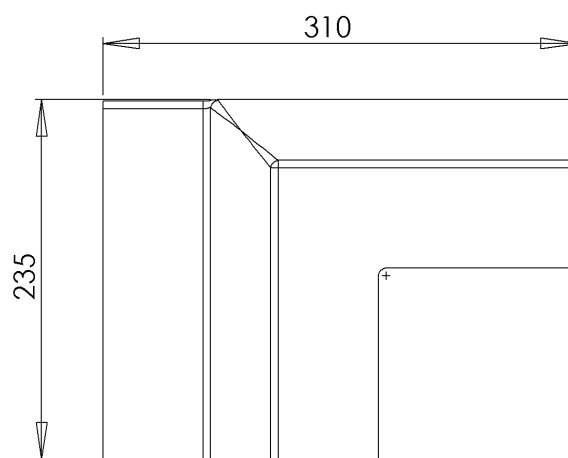
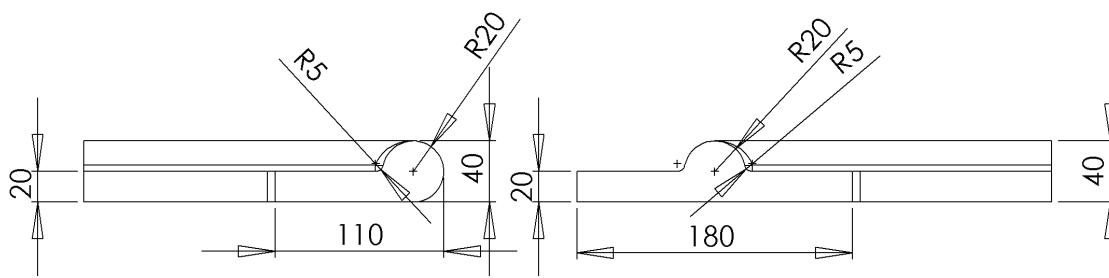
**SN 7-1**

## Cornerprofiles



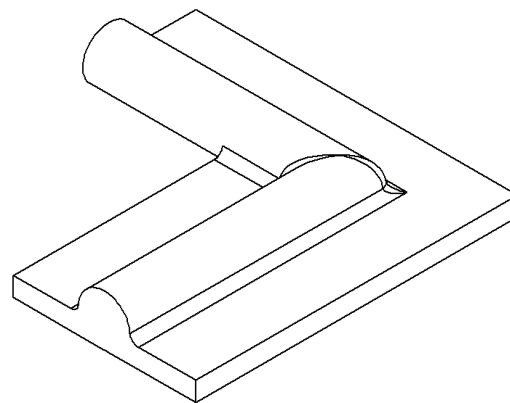
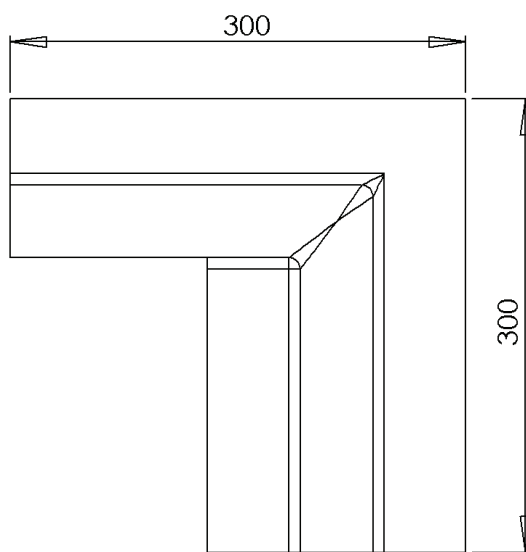
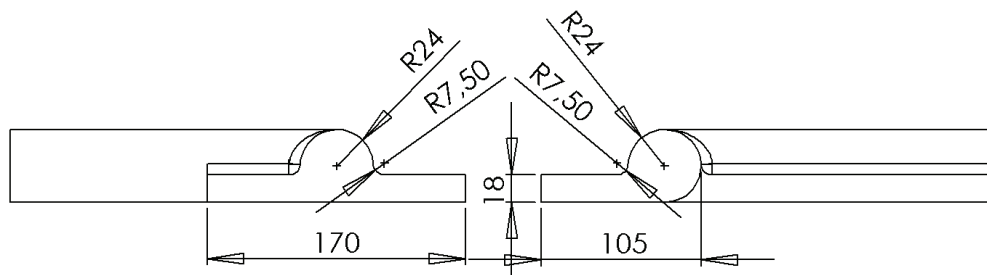
**SN 8H-1**

## Cornerprofiles



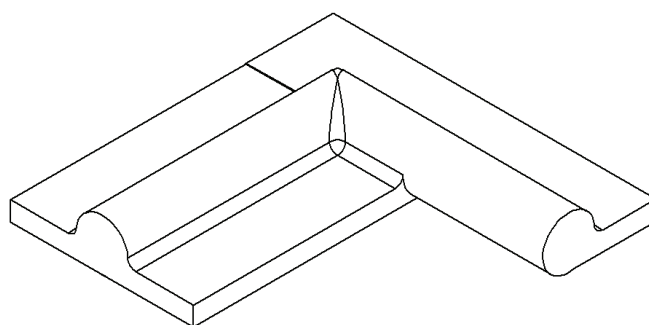
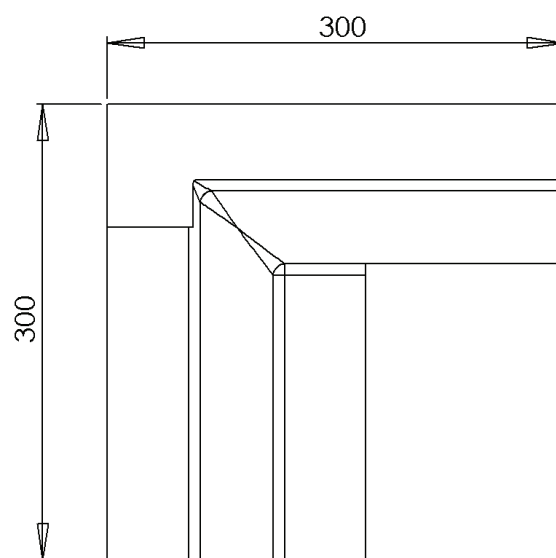
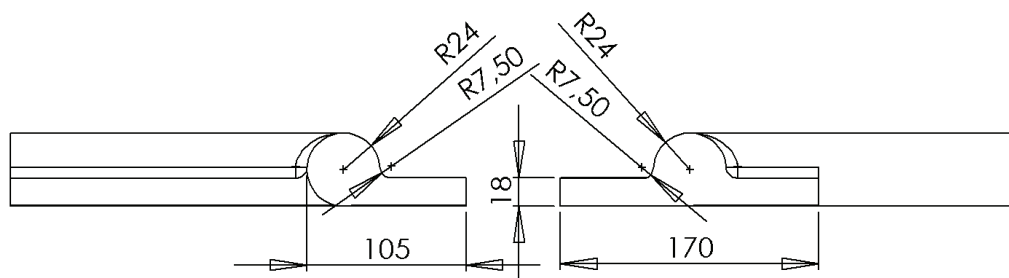
**SN 8V-1**

## Cornerprofiles



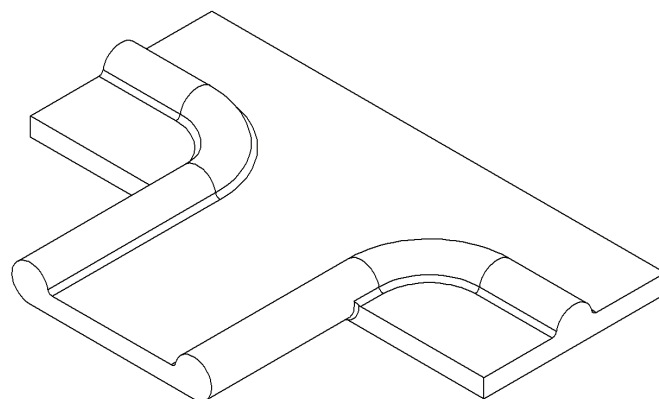
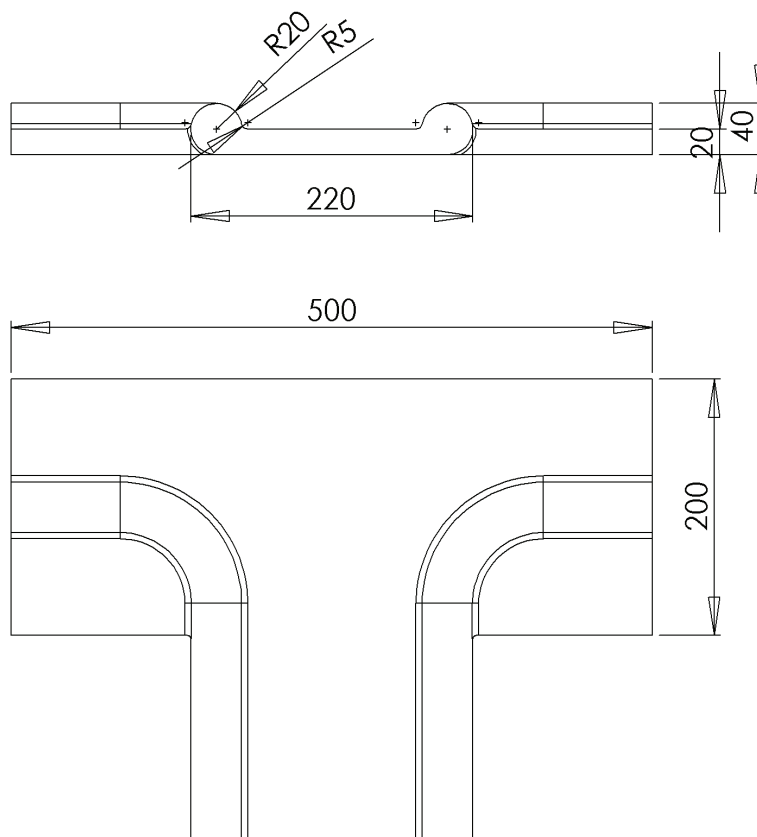
SN 9H-1

## Cornerprofiles



SN 9V-1

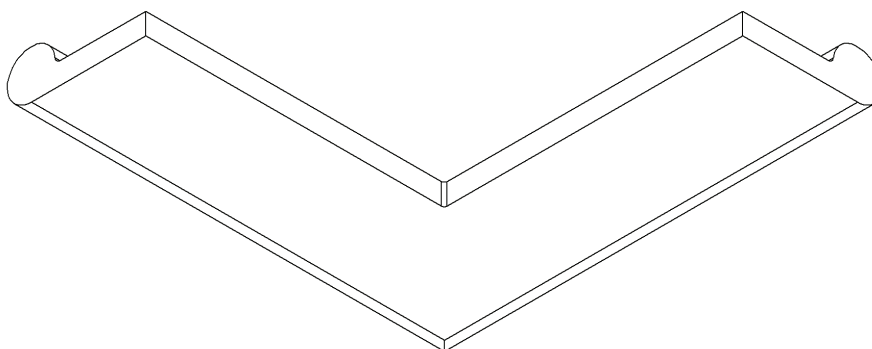
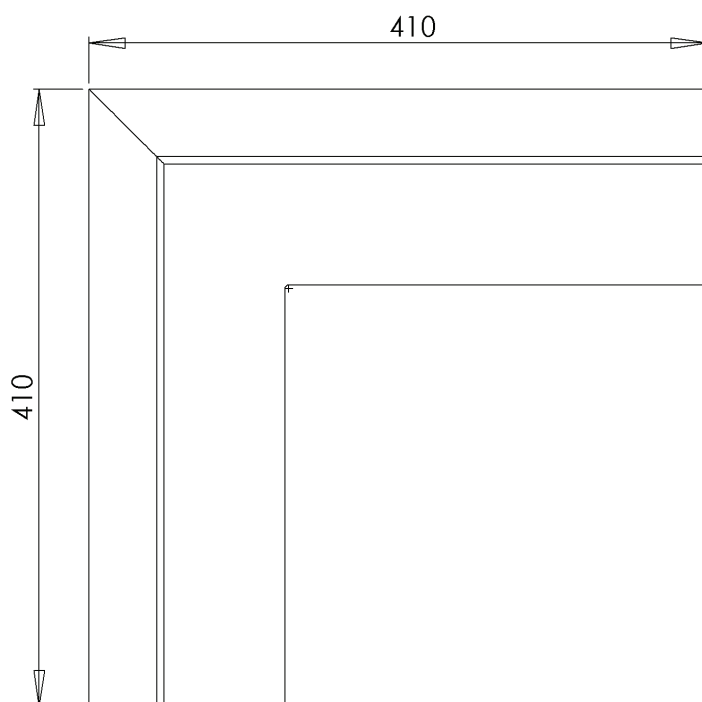
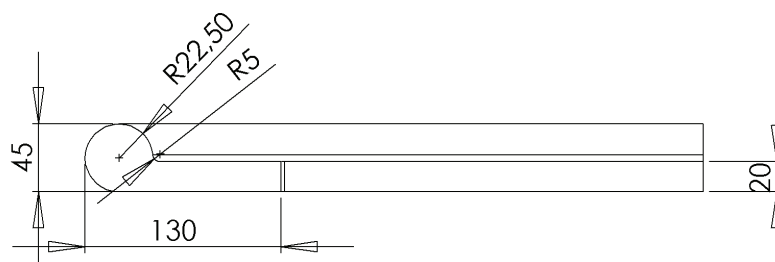
## Cornerprofiles



SN 10-1

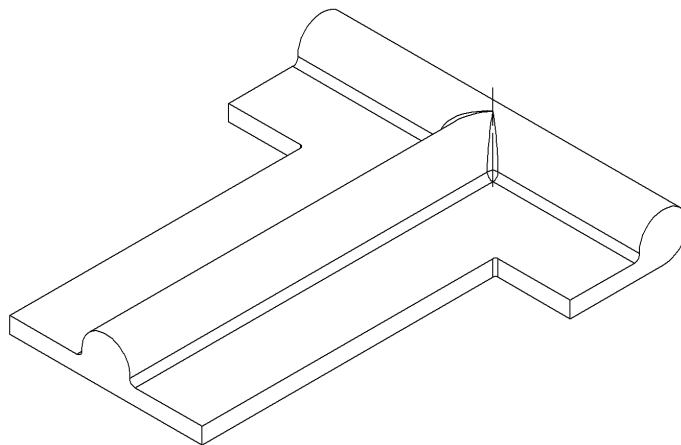
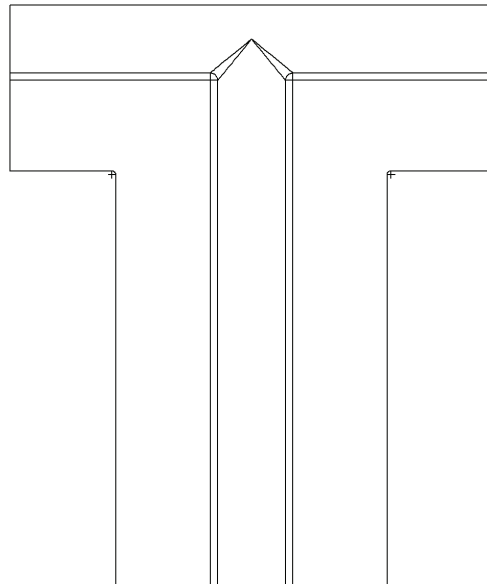
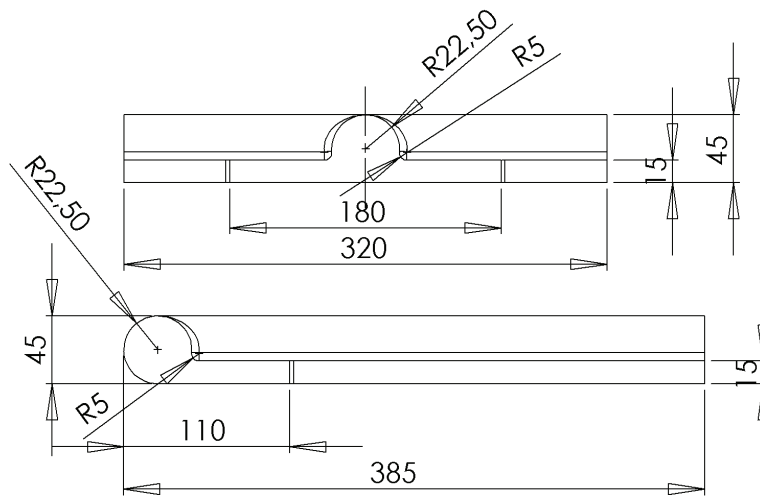


## Cornerprofiles



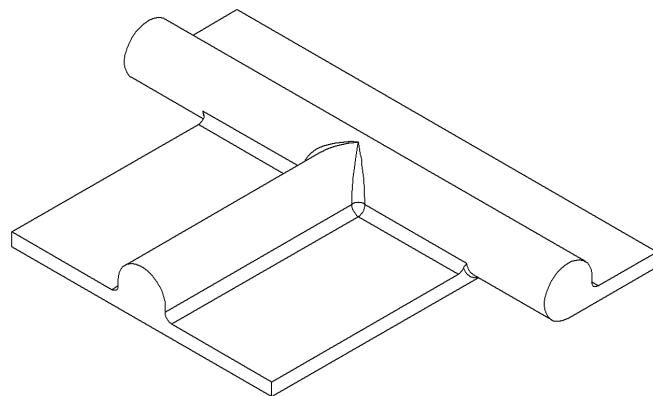
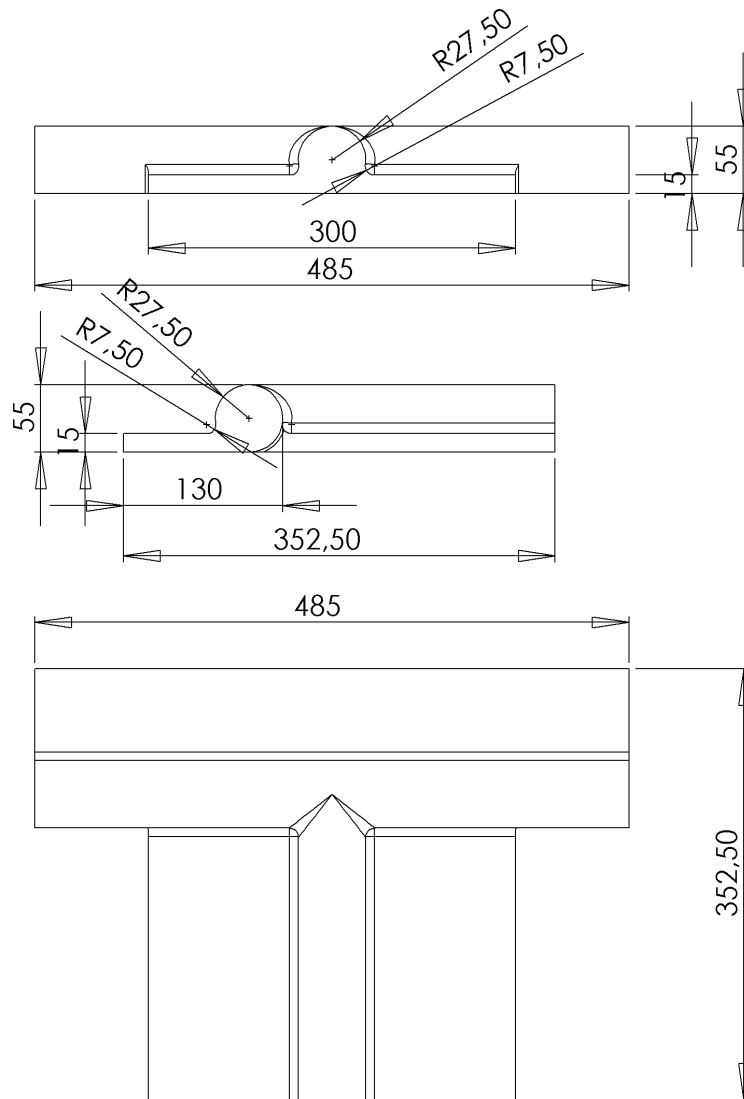
SN 11-1

## Cornerprofiles



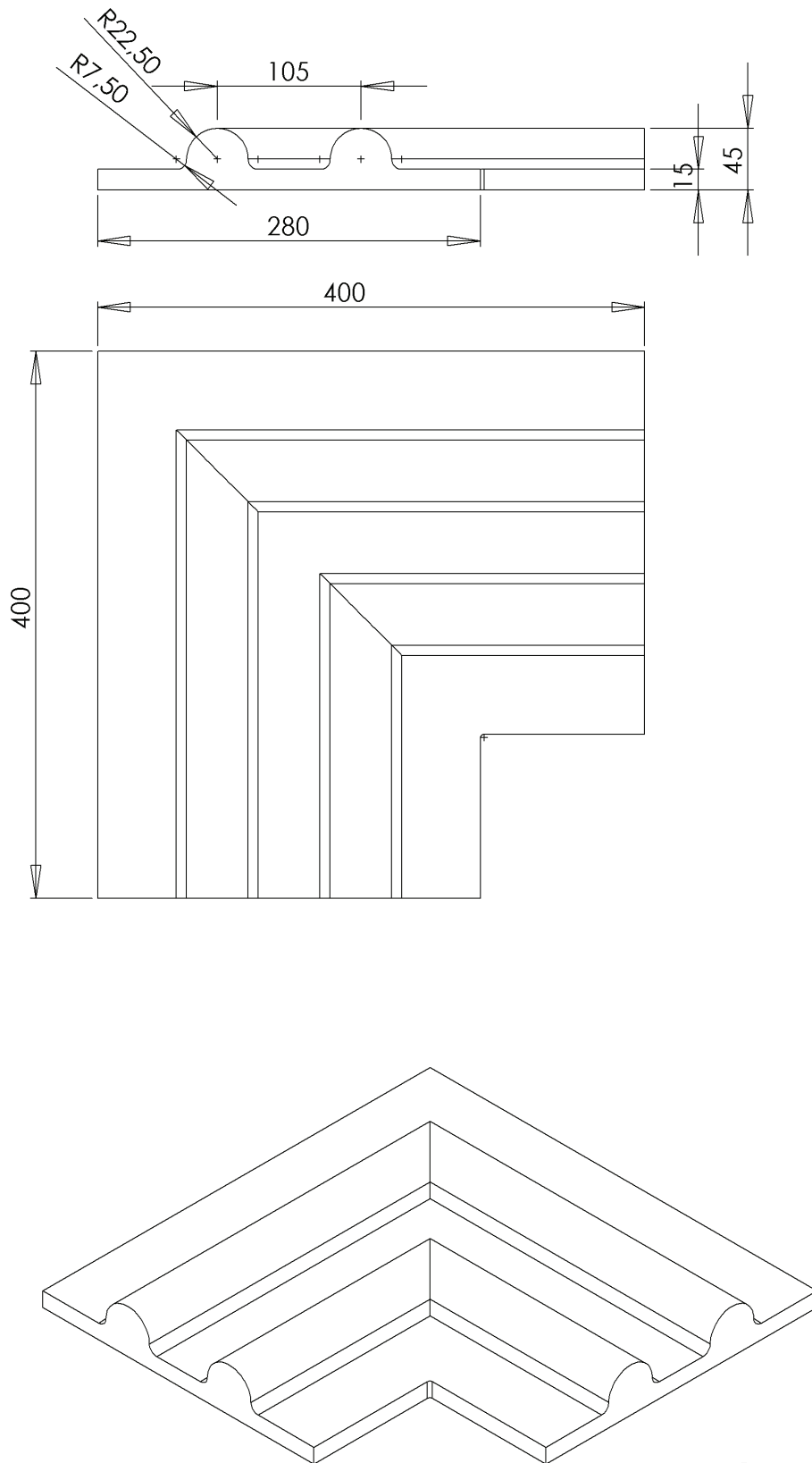
SN 12-1

## Cornerprofiles



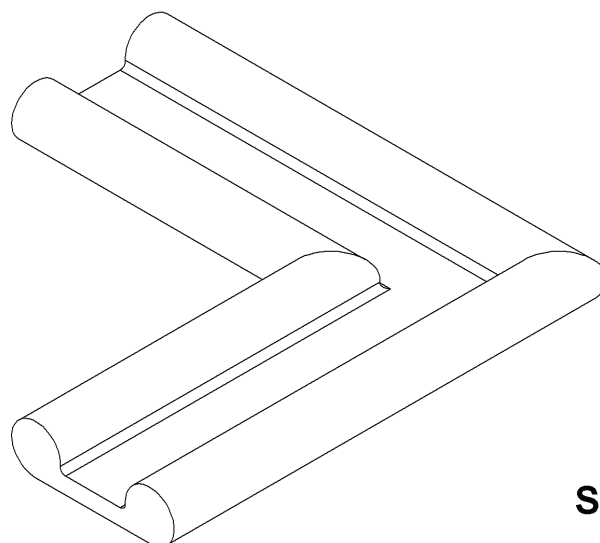
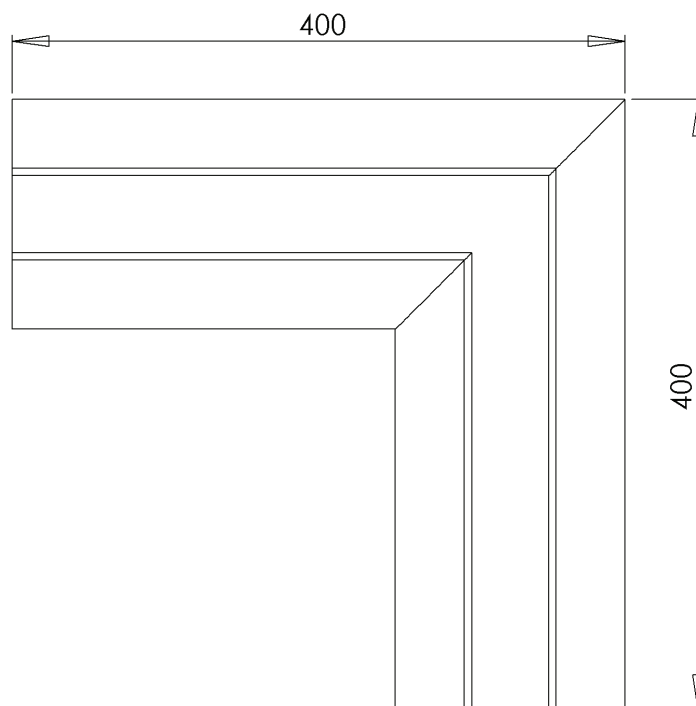
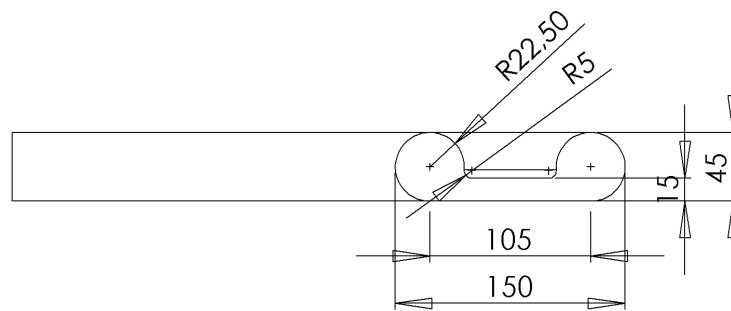
SN 13-1

## Cornerprofiles



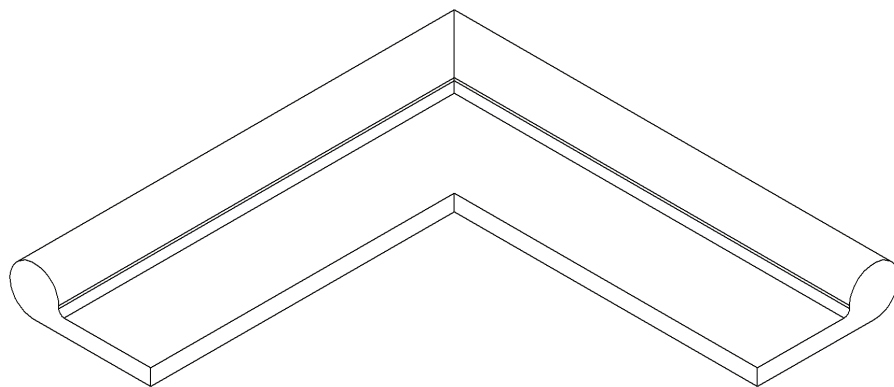
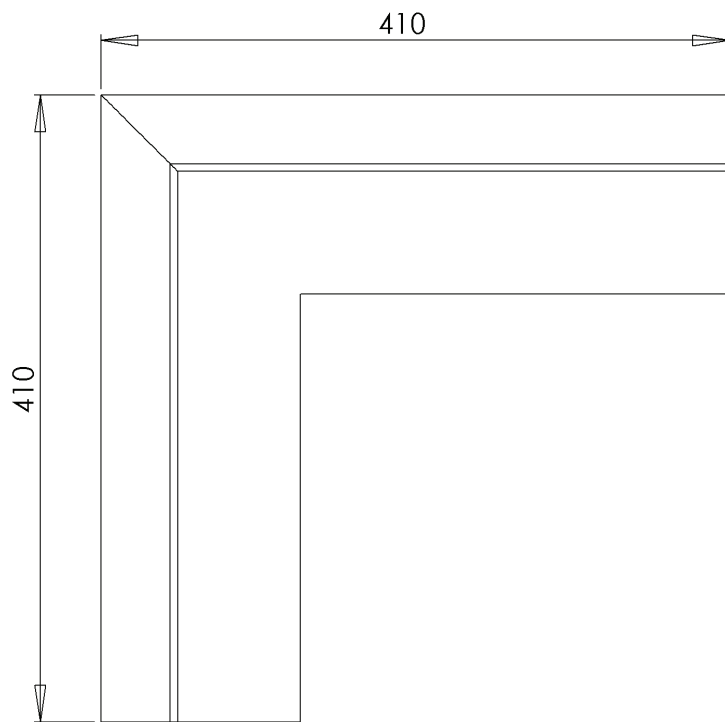
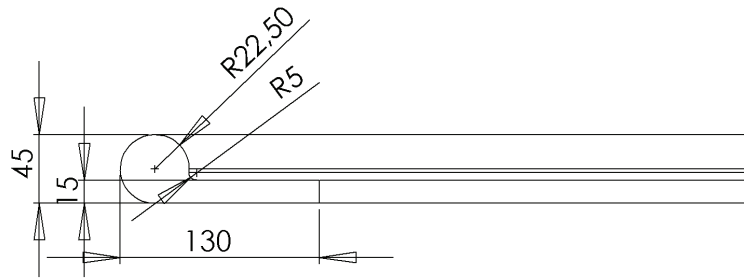
SN 14-1

## Cornerprofiles



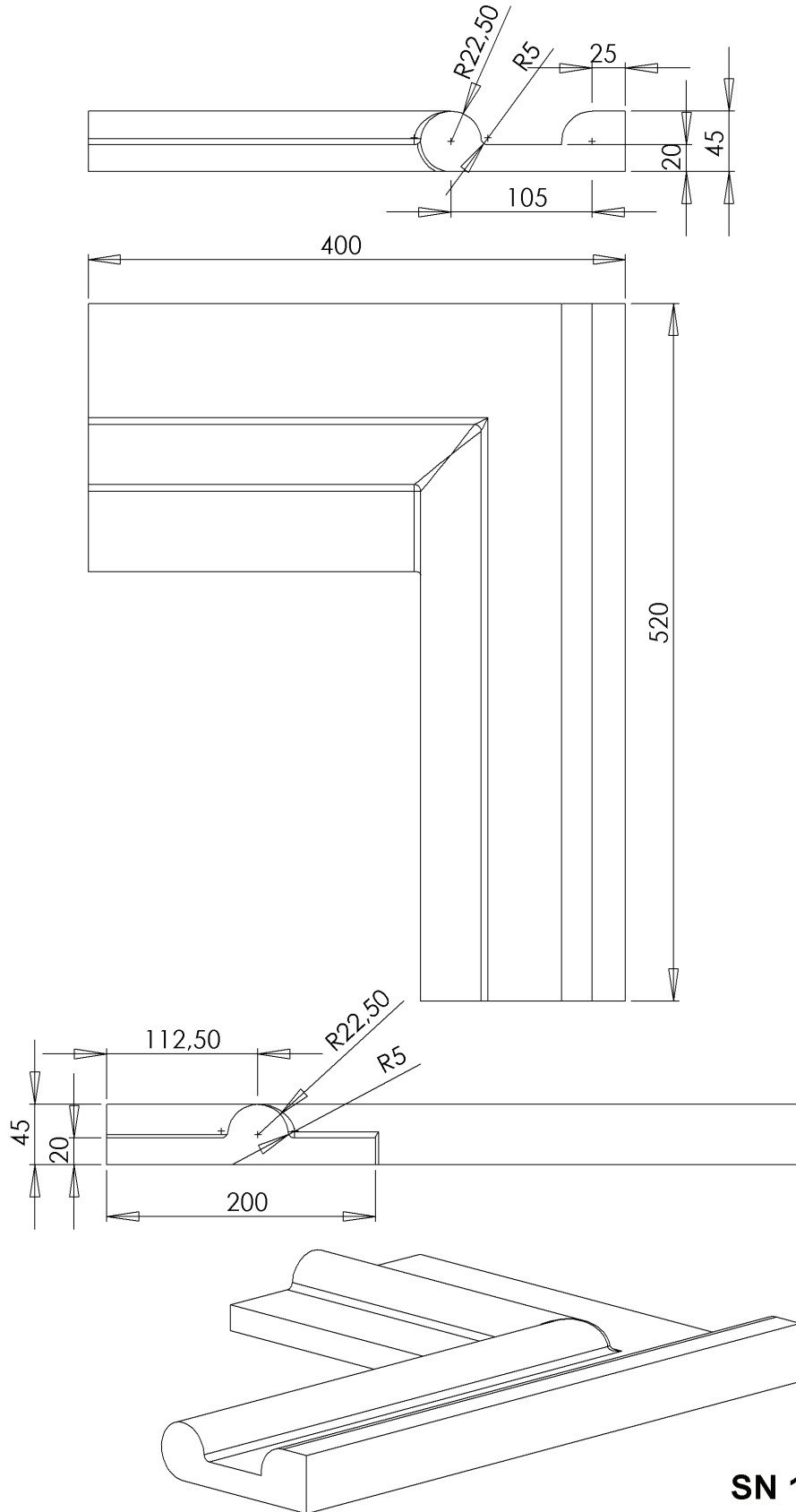
SN 15-1

## Cornerprofiles

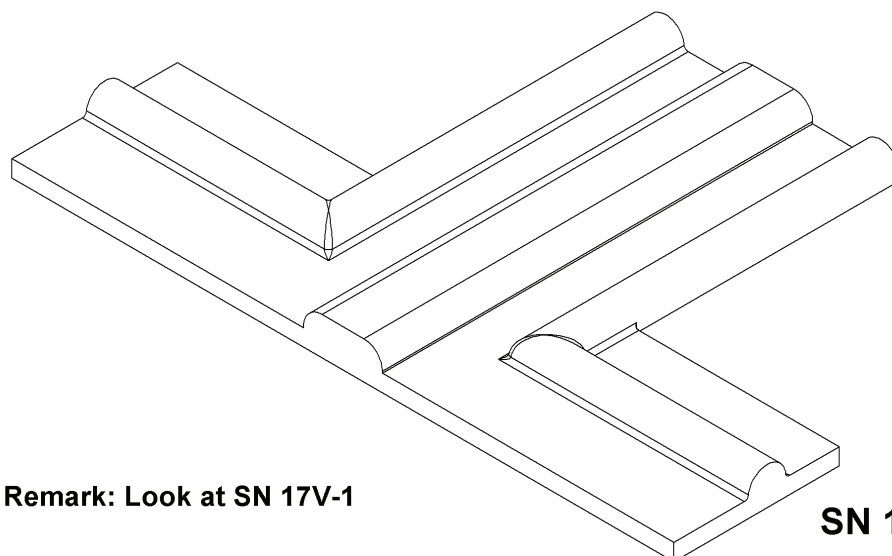
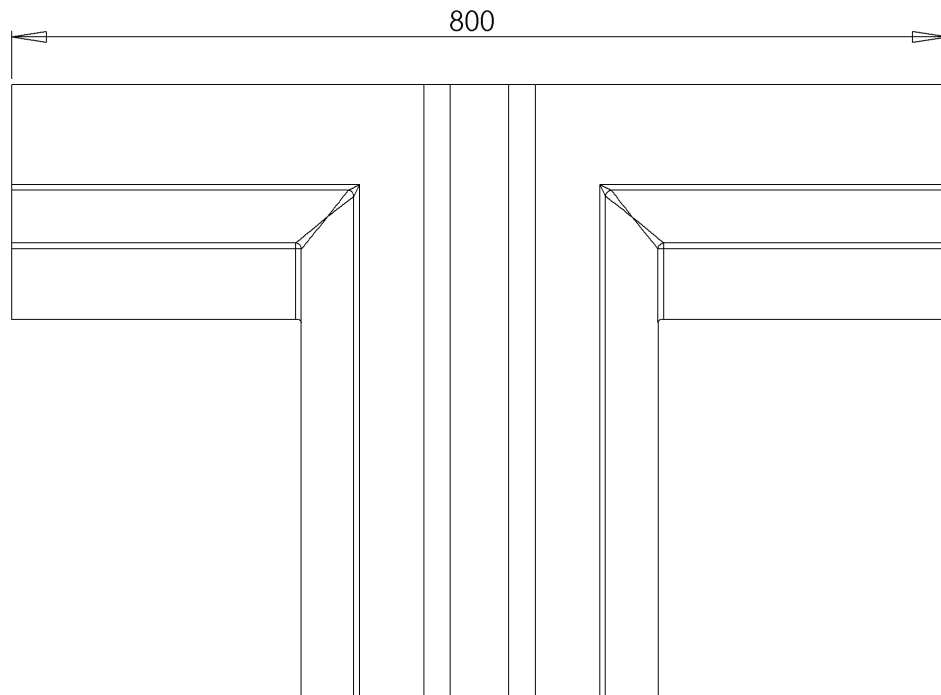
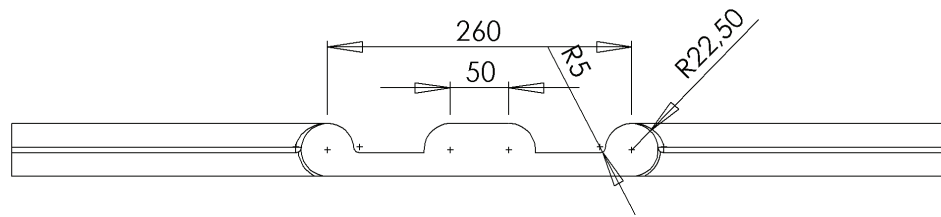


SN 16-1

## Cornerprofiles



## Cornerprofiles

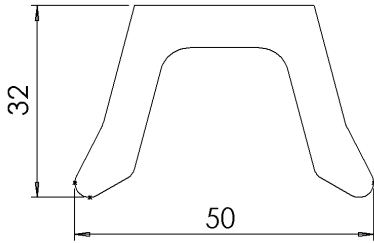


Remark: Look at SN 17V-1

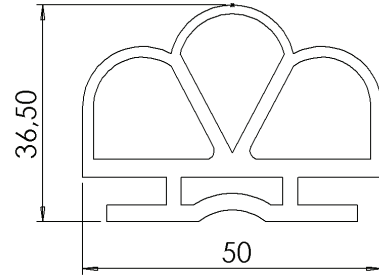
SN 17 V+H



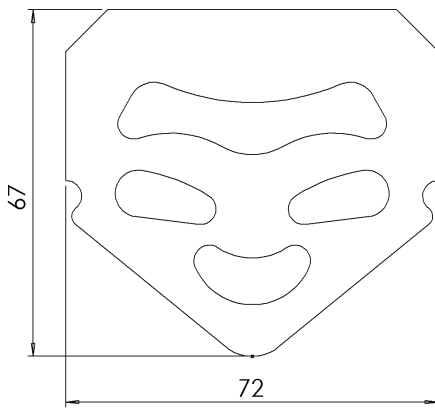
**Examples of seals**



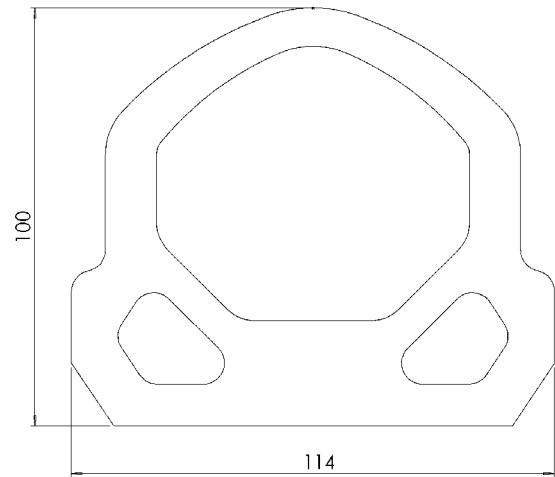
80836



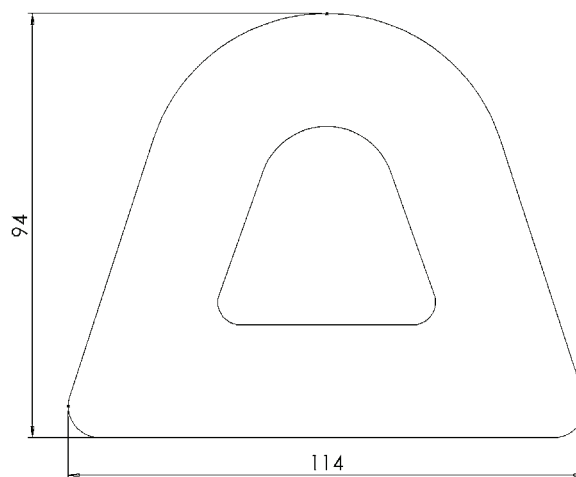
80894



80911

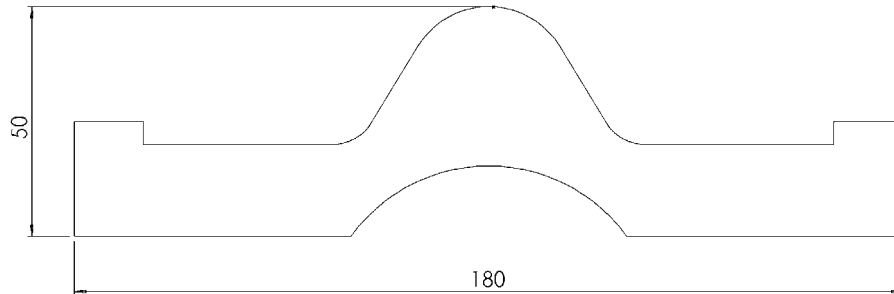


83046

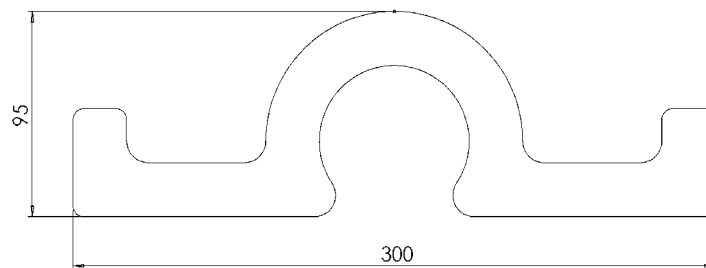


79543

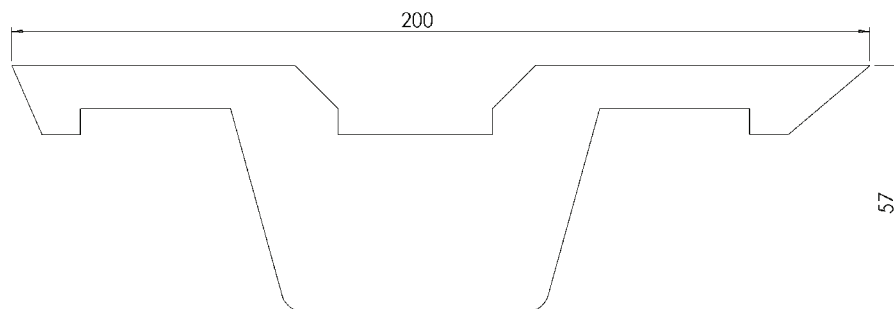
## Examples of seals



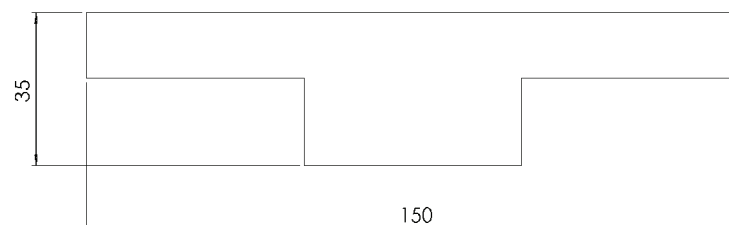
80749



83034

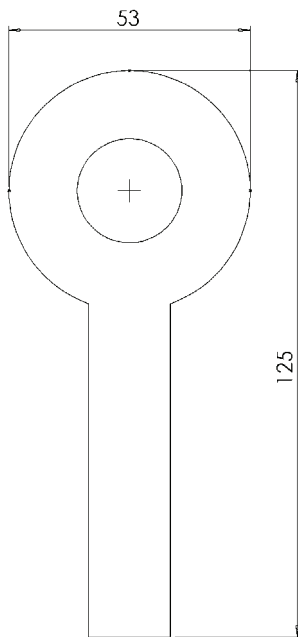


80266

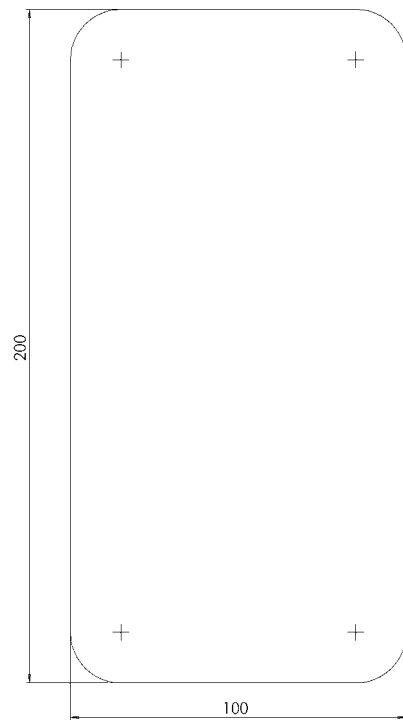


81528

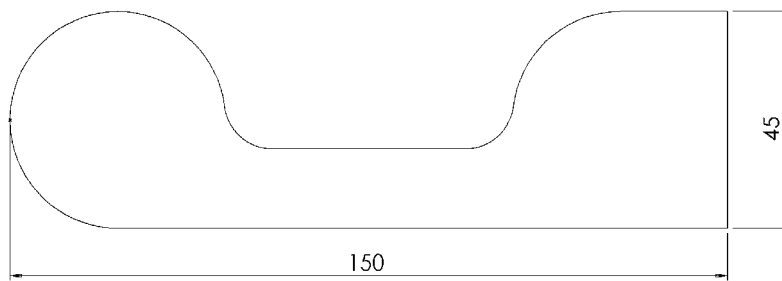
## Examples of seals



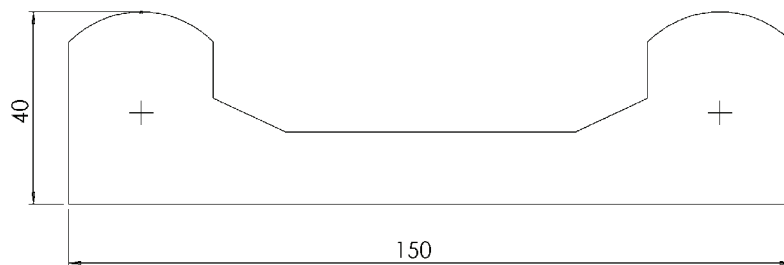
80305



80932

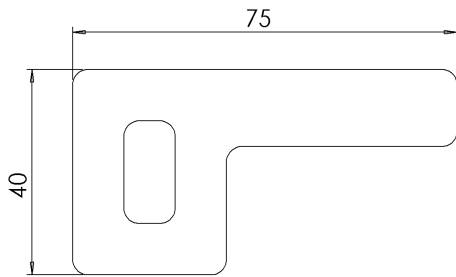


81420

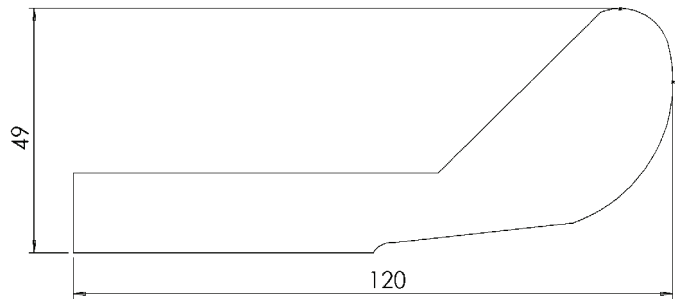


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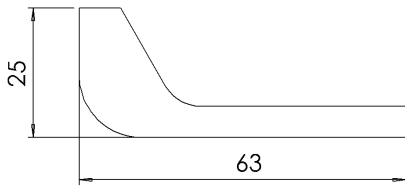
## Examples of seals



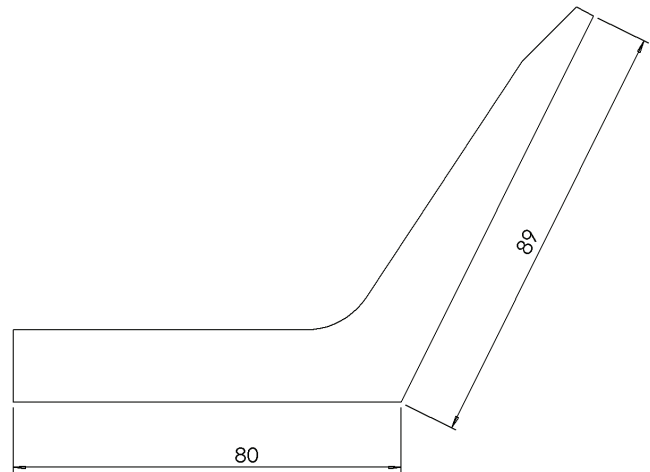
78956



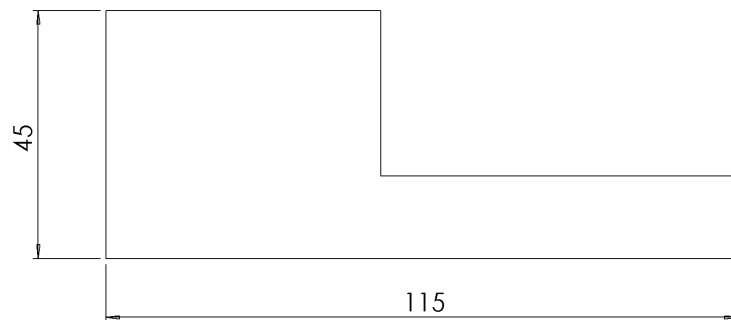
80192



80391

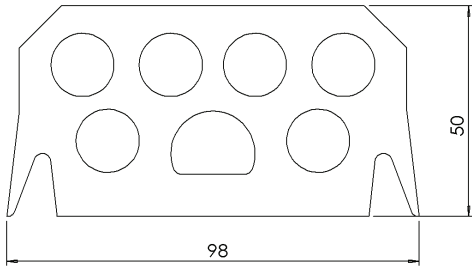


82038

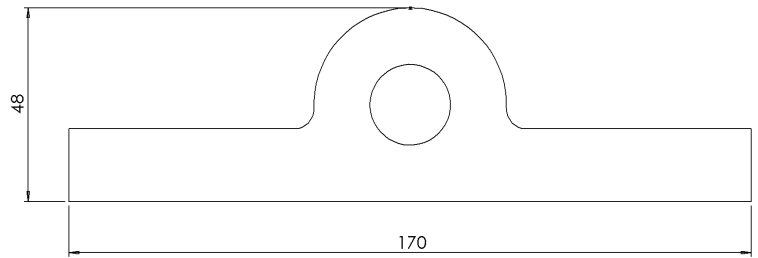


81690

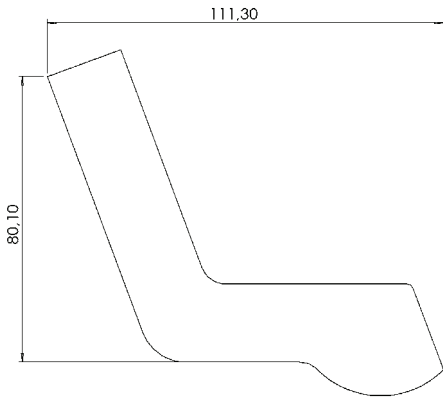
### Examples of seals



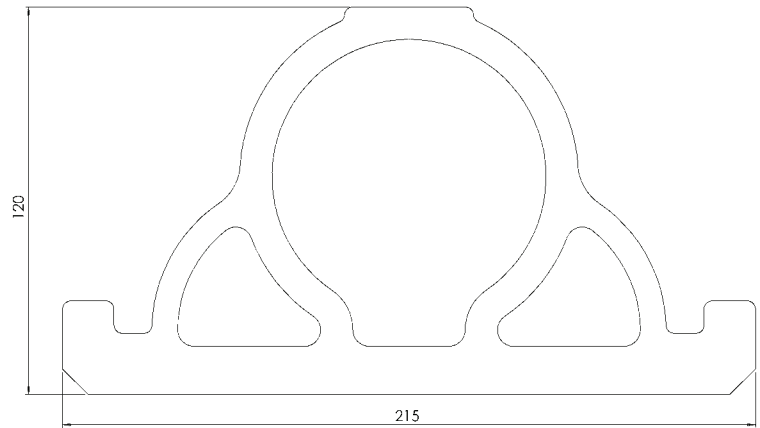
79191



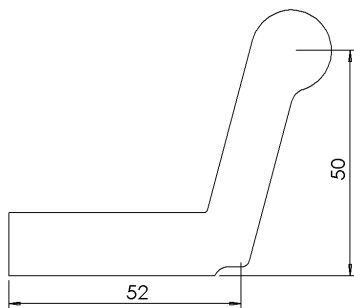
83073



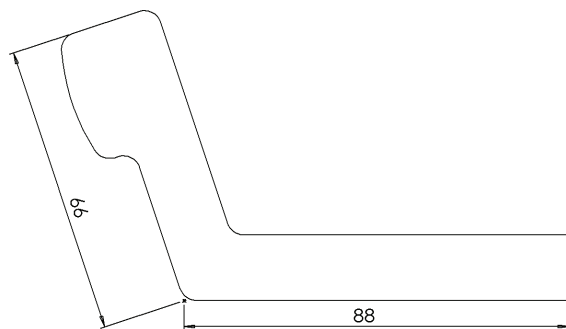
80442



83183

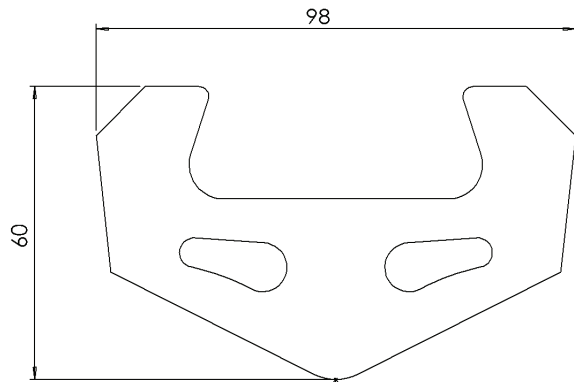


83256

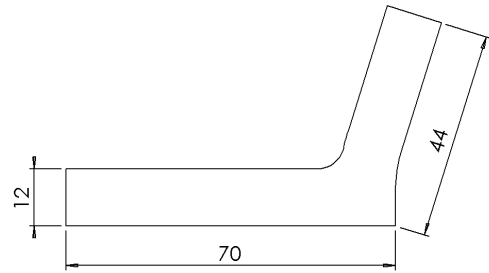


83064

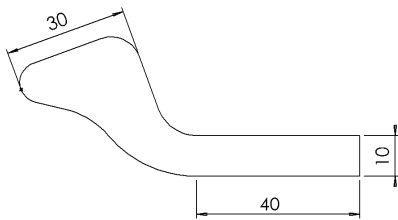
## Examples of seals



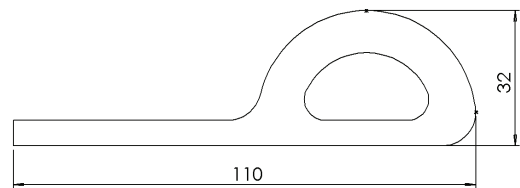
80536



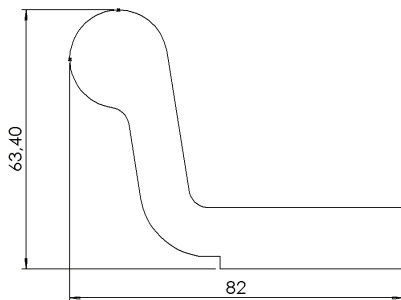
83063



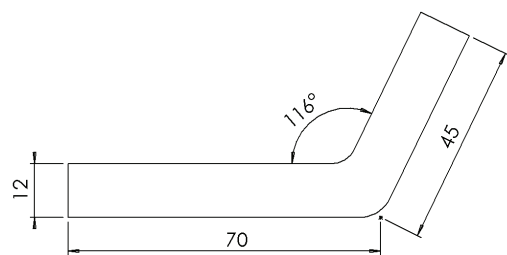
79597



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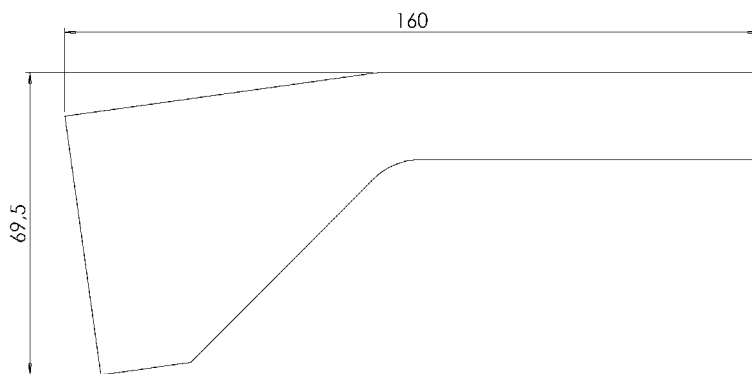


83198

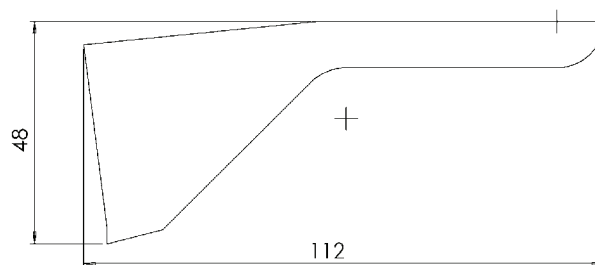


82037

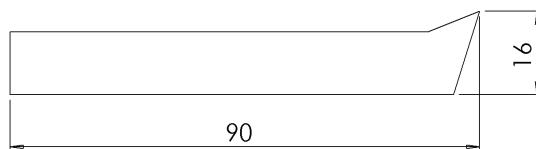
## Examples of seals



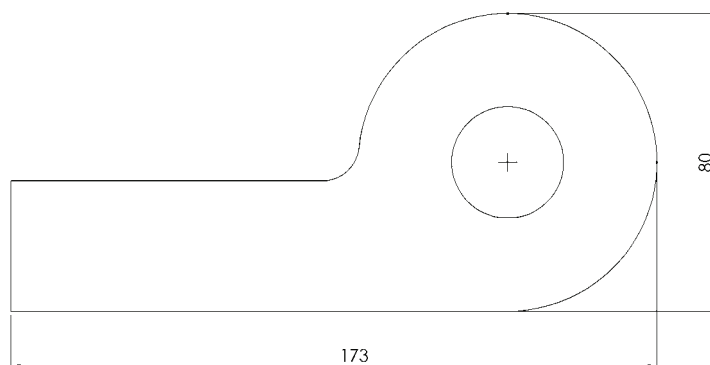
80285



80930



81537



83174

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**Knowledge, Competence and Capacity...**



**Thermo-forming**



**Moulded Product**



**Seals**



**Die-cutting**

