

Tubes used as Moulds

Normally the tubes are used for drainage. The dimensions of the tubes used for making the moulds are international and therefore available in major cities. All tubes come in lengths of 6 meters.

The tubes are cut in different lengths depending on their function.

Table 1 shows which tubes are used to cast: chimney block, chimney and combustion chamber.

Table 1. Tubes needed to make the various moulds

UPVC ISO 4422		
Tubes used in inside the combustion chamber & the chimney and chimney block		
50 mm		PN 10
110 mm		PN 10
Smaller combustion chamber		
160 mm		PN 6
250 mm		PN 6
Larger combustion chamber		
200 mm		PN 6
280 mm		PN 6
Chimney block		
200 mm		PN 6

Table 1 shows the various tubes needed. Some of the tubes are used as moulds; others serve to make holes or openings in the cast parts. It is possible to cast a smaller and a larger combustion chamber. To cast the chambers it is necessary that there is a difference in diameter of 75 mm between the two tubes used. That gives a space between them of about 36 mm when the smaller mould is lowered into the larger one. The chimney block can be connected to both sizes of the combustion chamber.

Table 2. Smaller combustion chamber

Diameter of outer mould (outside measurement)	250 mm
Diameter of outer mould (inside measurement)	235 -
Diameter of inner mould (outside measurement)	160 -
Difference	75 mm
Thickness of wall in combustion chamber	36 mm

Table 3. Number of moulds that can be cut from tubes – 6000 mm long

Tubes: 6000 mm	Numbers required	Diameter mm	Diameter mm	Length mm	Length mm added	Total in mm	Calculated	Numbers total
<u>Chimney block</u>								
Tubes								
Vertical piece A.	1	50		310	40 ^o	550	6000/550	10
Horizontal piece B.		50		200	0			10
<u>Chimney block</u>								
Outside mould	1	200		310	0	310	6000/310	19
<u>Chimney</u>								
Inside tube	1	50		700	700+40 ^o	740	6000/740	7
Mould	1	110		700	0	700		8
<u>Combustion chamber</u>								
Inner mould	1 ^o	160		260	260 + 40 ^o	300	6000/300	19
Inner mould	1 ^o	200		260	260 + 40 ^o	300	6000/300	19
Outer mould	1 ^o		250	260	0	260	6000/260	19*
Outer mould	1 ^o		280	260	0	260	6000/260	19*

^o 40 mm is added so that it is possible to pull out the inner tube shortly after the casting is finished.

^o Two sizes of moulds are listed. The smaller dimension – 160 mm – of the inner mould is paired with the smaller dimension – 250 mm of the outer mould. See Table 2.

* From the tube – 250 mm in diameter – is cut two curved sheets used inside the chimney block mould to save cement. See link: [Making the Moulds – c. Chimney Block](#). A third curved sheet – also placed inside the chimney block mould – is used to give the chimney block a concave shape that fits the curve of the combustion chamber when the two parts are joined. The sheet is cut from a 250 mm or a 280 mm tube – depending on which tube is used as outer mould for the combustion chamber – a 250 mm or a 280 mm tube.

If double as many tubes, diameter 50 mm and 110 mm, as shown in table 3, are bought there will be sufficient tubes for 15 to 19 full sets of moulds.