

# ISO 3302-1:1996(E)

## E and L class

### 6.1 General

Extruded rubber products require greater tolerances in manufacture than those produced by moulding since the rubber undergoes die swell and, during subsequent vulcanization, shrinkage and deformation usually occur.

Deformation can be reduced by the use of supports during vulcanization, the nature of the support depending on the section being produced, and the degree of control required. Such features determine the class of tolerance applicable to given dimensions.

In the case of certain synthetic rubbers, extrusion class E1 tolerances are not directly obtainable.

### 6.2 Classification

Three classes of tolerance on nominal cross-sectional dimensions of unsupported extrusions:

E1 high quality  
E2 good quality  
E3 non-critical

**Table 2 - Tolerances on cross-sectional dimensions of unsupported extrusions**

Values in millimetres

Nominal dimension		Class E1 ±	Class E2 ±	Class E3 ±
above	up to and including			
0	1,5	0,15	0,25	0,40
1,5	2,5	0,20	0,35	0,50
2,5	4,0	0,25	0,40	0,70
4,0	6,3	0,35	0,50	0,80
6,3	10,0	0,40	0,70	1,00
10	16	0,50	0,80	1,30
16	25	0,70	1,00	1,60
25	40	0,80	1,30	2,00
40	63	1,00	1,60	2,50
63	100	1,30	2,00	3,20

**Table 6 - Tolerances on cut length of extrusions**

Values in millimetres (unless indicated otherwise)

Nominal length		Class L1 ±	Class L2 ±	Class L3 ±
above	up to and including			
0	40	0,7	1,0	1,6
40	63	0,8	1,3	2,0
63	100	1,0	1,6	2,5
100	160	1,3	2,0	3,2
160	250	1,6	2,5	4,0
250	400	2,0	3,2	5,0
400	630	2,5	4,0	6,3
630	1 000	3,2	5,0	10,0
1 000	1 600	4,0	6,3	12,5
1 600	2 500	5,0	10,0	16,0
2 500	4 000	6,3	12,5	20,0
4 000	-	0,16 %	0,32 %	0,50 %