

Table 27 Variation of Mechanical and Technological Properties of Some of the Lead Cable Sheathing Alloys on Storage [176].
(Courtesy of Lead Development Association, London.)

		Alloy No.												
		1	2	3	4	5	6	7	8	9	10	11	12	13
Tensile strength (MPa)	A	14.9	16.1	21.8	17.0	17.2	17.6	17.8	18.7	18.1	27.5	17.4	19.4	19.7
	B	14.8	15.9	21.6	17.7	18.7	17.8	19.6	18.1	18.2	30.8	17.3	19.6	20.3
	C	14.2	15.8	21.8	19.0	19.4	19.2	21.8	18.8	19.0	30.5	17.2	20.0	21.0
	D	14.4	15.9	22.5	19.1	19.1	19.3	23.5	19.4	21.3	28.1	17.2	19.9	20.8
	E	14.0	15.7	21.8	19.3	19.2	19.1	23.5	—	21.9	37.5	17.0	20.2	21.0
Yield point $\sigma_{0.2}$ (MPa)	A	8.3	8.7	14.7	11.7	11.4	11.8	11.9	11.5	11.9	20.3	10.4	14.1	13.9
	B	7.3	7.8	12.5	11.0	12.1	12.1	12.8	11.3	11.1	22.3	9.5	14.3	13.9
	C	6.9	7.4	10.9	12.1	11.7	12.2	13.8	10.8	11.8	21.5	9.1	14.2	14.2
	D	7.2	7.9	11.6	12.5	12.6	12.2	15.2	11.2	13.7	20.7	9.6	14.8	14.1
	E	6.9	7.2	10.6	11.4	12.4	11.8	15.0	—	14.0	19.5	8.6	14.1	14.5
Elongation (%) $L_0 = 70$ mm	A	38.5	43.0	33.0	36.0	39.0	37.5	31.5	38.0	37.5	21.5	39.5	28.0	29.5
	B	44.5	43.0	40.0	36.5	37.0	39.0	31.5	39.0	38.5	22.0	42.0	30.0	31.5
	C	45.5	45.0	40.5	34.0	35.0	35.5	26.5	38.0	35.0	24.0	41.5	30.0	31.0
	D	43.0	45.5	41.0	32.5	36.0	35.5	24.0	37.0	30.0	25.5	42.0	29.5	32.0
	E	44.0	44.0	40.0	30.0	32.0	36.0	24.0	—	29.0	24.0	44.0	30.0	27.5
Brinell hardness (MPa) H_B 0.625/5-60	A	44	44	61	48	48	48	53	54	49	84	47	60	60
	B	42	43	58	54	53	52	56	53	48	98	45	61	64
	C	41	43	55	58	52	56	68	56	55	96	45	60	65
	D	42	41	51	57	57	55	71	57	60	97	43	61	64
	E	41	41	49	59	57	56	73	—	61	91	44	61	66
No. of reverse bends through 180° $r = 7.5$ mm	A	38	42	23	36	42	36	31	31	29	22	36	37	38
	B	36	44	25	35	35	37	30	34	30	21	36	36	37
	C	42	50	26	42	41	46	32	35	31	23	35	40	40
	D	44	52	24	36	44	36	30	35	33	27	37	37	38
	E	50	48	32	43	43	44	31	—	35	26	37	37	36
No. of stress cycles $\times 10^3$ (Fatigue test) $s = 11$ MPa	A	96	117	875	450	600	450	328	310	350	2300	180	970	1140
	B	118	130	725	800	790	680	530	412	450	4070	252	1480	1900
	C	89	103	600	750	730	760	625	395	400	3350	144	1200	1600
	D	74	89	520	700	550	550	1600	537	400	4480	215	1830	2270
	E	74	118	421	650	650	600	1685	—	650	5225	180	1400	2713
Creep % after 2000 h $s = 4$ MPa			1.19	1.00	0.51	0.60	0.22	1.50	1.79	1.92	0.61	1.16	0.08	0.23

Note: A: after extrusion; B: after 6 months; C: after 18 months; D: after 36 months; E: after 72 months.