

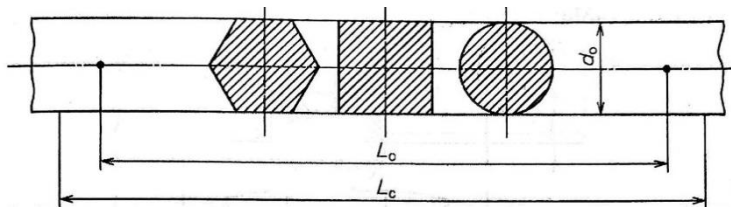
LAMPIRAN

Lampiran 1. Conversion Chart ASTM E140

TABLE 9 Approximate Hardness Conversion Numbers for Wrought Aluminum Products^{A, B, C}

Brinell Hardness Number 500-kgf, (10-mm Ball) (HBS)	Vickers Hardness Number 15-kgf, (HV)	Rockwell Hardness Number			Rockwell Superficial Hardness Number		
		B Scale 100-kgf, 1/16-in. Ball (HRB)	E Scale 100-kgf, 1/16-in. Ball (HRE)	H Scale 60-kgf, 1/16-in. Ball (HRH)	15-T Scale 15-kgf, 1/16-in. Ball (HR 15-T)	30-T Scale 30-kgf, 1/16-in. Ball (HR 30-T)	15-W Scale 15-kgf, 1/16-in. Ball (HR 15-W)
160	189	91	...	...	89	77	95
155	183	90	...	...	89	76	95
150	177	89	...	...	89	75	94
145	171	87	...	...	88	74	94
140	165	86	...	...	88	73	94
135	159	84	...	...	87	71	93
130	153	81	...	...	87	70	93
125	147	79	...	...	86	68	92
120	141	76	...	...	86	67	92
115	135	72	101	...	86	65	91
110	129	69	100	...	85	63	91
105	123	65	99	...	84	61	91
100	117	60	98	...	83	59	90
95	111	56	96	...	82	57	90
90	105	51	94	108	81	54	89
85	98	46	91	107	80	52	89
80	92	40	88	106	78	50	88
75	86	34	84	104	76	47	87
70	80	28	80	102	74	44	86
65	74	...	75	100	72	...	85
60	68	...	70	97	70	...	83
55	62	...	65	94	67	...	82
50	56	...	59	91	64	...	80
45	50	...	53	87	62	...	79
40	44	...	46	83	59	...	77

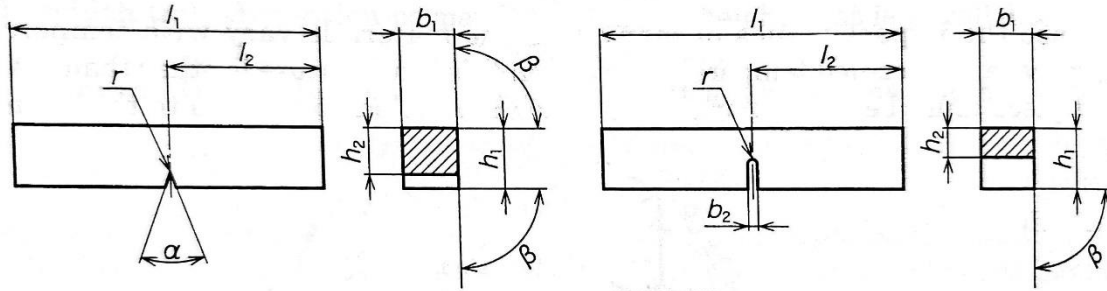
Lampiran 2. Standar Dimensi Sampel Uji Tarik JIS Z 2241 Nomor 2



Unit: mm

Diameter or width across flats	Original gauge length of test piece L_0	Parallel length L_c
Original diameter or width across flats of product	$8 d_0$	$L_0 + 2 d_0$ min.

Lampiran 3. Standar Dimensi Sampel Uji Impak JIS Z 2242



Designation		Symbol	V-notch test piece		U-notch test piece	
			Dimension	Tolerance	Dimension	Tolerance
Length		l_1	55 mm	± 0.60 mm	55 mm	± 0.60 mm
Height		h_1	10 mm	± 0.05 mm	10 mm	± 0.05 mm
Width		b_1	10 mm	± 0.05 mm	10 mm	± 0.05 mm
Width (subsidiary test piece)			7.5 mm	± 0.05 mm	7.5 mm	± 0.05 mm
Width (subsidiary test piece)			5 mm	± 0.05 mm	5 mm	± 0.05 mm
Width (subsidiary test piece)			2.5 mm	± 0.05 mm	2.5 mm	± 0.05 mm
Angle of V-notch/width of U-notch		α/b_2	45°	$\pm 2^\circ$	2 mm	± 0.14 mm
Height below notch		h_2	8 mm	± 0.05 mm	5 mm ⁽¹⁾	± 0.05 mm
Radius of curvature at base of notch		r	0.25 mm	± 0.025 mm	1 mm	± 0.07 mm
Distance of plane of symmetry of notch from ends of test piece	For machines without automatic positioning	l_2	27.5 mm	± 0.40 mm	27.5 mm	± 0.40 mm
	For machines with automatic positioning		27.5 mm	± 0.165 mm	27.5 mm	± 0.165 mm
Angle between plane of symmetry of notch and longitudinal axis of test piece			90°	$\pm 2^\circ$	90°	$\pm 2^\circ$
Angle between adjacent longitudinal faces of test piece		β	90°	$\pm 2^\circ$	90°	$\pm 2^\circ$

Note (1) If another height is specified, the corresponding tolerances shall also be specified. And shall be ± 0.05 mm for 8 mm of height below notch.

Lampiran 4. Data hasil uji tarik

AS-CAST	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
NO PD	2865,89	1518,83	0,68	2528,72	1340,15	15,50	293,00	295,00
	3192,28	1736,35	1,02	2076,45	1129,43	15,30	294,00	297,00
	3136,58	1609,91	1,02	2047,49	1050,91	15,75	294,00	297,00
	3235,35	1725,71	1,02	2304,44	1229,17	15,45	293,00	296,00
	2248,74	1169,03	1,03	1465,99	762,11	15,65	292,00	295,00

T6	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
NO PD	3341,92	1759,74	1,03	2941,64	1548,96	15,55	292,00	295,00
	3401,34	1734,76	1,38	2708,82	1381,56	15,80	289,00	293,00
	3601,48	1791,25	1,72	2766,74	1376,08	16,00	290,00	295,00
	3513,48	1747,48	1,38	2432,55	1209,86	15,35	289,00	293,00
	2835,44	1604,53	1,06	2606,7	1475,09	15,00	282,00	285,00

T6	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
PD	3832,07	1979,48	1,03	3115,04	1609,09	15,70	292,00	295,00
	3232,38	1878,97	0,71	2848,43	1655,78	14,80	282,00	284,00
	3199,71	1810,61	0,35	2882,97	1631,38	15,00	282,00	283,00
	3734,79	2058,19	0,70	3131,75	1725,86	15,20	284,00	286,00
	3506,42	1870,29	1,04	3173,71	1692,83	15,45	288,00	291,00

R6	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
NO PD	3682,43	2016,11	1,41	2551,00	1396,66	15,25	283,00	287,00
	3439,58	2068,67	1,06	2458,54	1478,64	14,55	282,00	285,00
	3266,55	1886,00	1,07	2428,09	1401,90	14,85	281,00	284,00
	3256,15	1692,74	1,03	2613,38	1358,59	15,65	291,00	294,00
	3362,35	1928,28	1,42	2413,61	1384,19	14,90	281,00	285,00

R6	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
PD	3475,23	2225,57	0,71	2773,80	1776,37	14,10	282,00	284,00
	2542,46	1467,93	0,35	1767,51	1020,50	14,85	282,00	283,00
	2510,16	1459,14	0,35	2219,04	1289,91	14,80	283,00	284,00
	2901,53	1733,09	0,36	1535,06	916,89	14,60	281,00	282,00
	2726,27	1595,52	0,36	2722,55	1593,35	14,75	281,00	282,00

R7	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
NO PD	3624,87	1884,42	1,37	2796,82	1453,95	15,65	293,00	297,00
	3364,20	1782,93	1,03	2302,21	1220,10	15,50	290,00	293,00
	3741,84	1920,57	1,37	2503,47	1284,95	15,75	291,00	295,00
	3370,52	1752,19	1,38	2855,86	1484,64	15,65	290,00	294,00
	3630,82	1949,22	1,03	2674,65	1435,90	15,40	290,00	293,00

R7	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
PD	3787,51	2060,11	1,42	3162,20	1719,99	15,30	282,00	286,00
	3650,12	1946,94	1,39	2859,20	1525,07	15,45	287,00	291,00
	3806,82	1953,92	1,37	2998,08	1538,82	15,75	293,00	297,00
	3670,55	1970,55	1,03	2765,26	1484,54	15,40	290,00	293,00
	3852,50	1977,36	1,03	2787,17	1430,56	15,75	291,00	294,00

R8	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
NO PD	3738,50	1968,56	1,40	2539,12	1337,01	15,55	285,00	289,00
	2542,83	1356,32	0,69	1754,14	935,64	15,45	289,00	291,00
	3686,14	1904,10	1,74	2477,11	1279,56	15,70	288,00	293,00
	3612,99	1978,10	1,03	2449,63	1341,16	15,25	292,00	295,00
	2922,33	1509,54	1,04	1826,55	943,51	15,70	288,00	291,00

R8	MAX FORCE (Kgf)	TENSILE STRENGTH (Kgf/cm ²)	ELONGATION (%)	YIELD FORCE (Kgf)	YIELD STRESS (Kgf/cm ²)	D (mm)	LO (mm)	Lf (mm)
PD	3830,59	2056,47	1,74	2882,22	1547,34	15,40	287,00	292,00
	3256,15	1692,74	1,74	2033,75	1057,26	15,65	287,00	292,00
	2897,82	1468,66	1,03	1838,06	931,56	15,85	290,00	293,00
	3751,12	2013,81	1,37	2734,44	1468,00	15,40	291,00	295,00
	3807,57	2017,89	0,68	2854,00	1512,54	15,50	292,00	294,00

Lampiran 5. Data hasil uji impak

<i>AS-CAST</i>	Kekuatan Impak (J/cm ²)	Rata-Rata (J/cm ²)	Standar Deviasi
<i>No Paint</i>	2,91	2,91	0
<i>Drying</i>	2,91		
<i>Condition</i>	2,91		

<i>T6</i>	Kekuatan Impak (J/cm ²)	Rata-Rata (J/cm ²)	Standar Deviasi
<i>No Paint</i>	1,18	1,18	0,00
<i>Drying</i>	1,18		
<i>Condition</i>	1,18		
<i>Paint</i>	1,79	1,79	0,00
<i>Drying</i>	1,79		
<i>Condition</i>	1,79		

<i>R6</i>	Kekuatan Impak (J/cm ²)	Rata-Rata (J/cm ²)	Standar Deviasi
<i>No Paint</i>	1,79	1,59	0,35
<i>Drying</i>	1,79		
<i>Condition</i>	1,18		
<i>Paint</i>	1,79	1,38	0,35
<i>Drying</i>	1,18		
<i>Condition</i>	1,18		

<i>R7</i>	Kekuatan Impak (J/cm ²)	Rata-Rata (J/cm ²)	Standar Deviasi
<i>No Paint</i>	3,51	3,31	0,35
<i>Drying</i>	3,51		
<i>Condition</i>	2,91		
<i>Paint</i>	4,12	4,53	0,72
<i>Drying</i>	4,12		
<i>Condition</i>	5,36		

<i>R8</i>	Kekuatan Impak (J/cm ²)	Rata-Rata (J/cm ²)	Standar Deviasi
<i>No Paint</i>	1,79	1,79	0,00
<i>Drying</i>	1,79		
<i>Condition</i>	1,79		
<i>Paint</i>	1,79	1,99	0,35
<i>Drying</i>	1,79		
<i>Condition</i>	2,39		

Lampiran 6. Data hasil uji kekerasan

<i>AS-CAST</i>	<i>Hardness Rockwell HRB</i>	<i>Rata- Rata HRB</i>	<i>Standar Deviasi</i>
<i>No Paint</i>	15,80	14,47	1,67
<i>Drying</i>	15,00		
<i>Condition</i>	12,60		

<i>T6</i>	<i>Hardness Rockwell HRB</i>	<i>Rata- Rata HRB</i>	<i>Standar Deviasi</i>
<i>No Paint</i>	17,30	20,07	3,88
<i>Drying</i>	18,40		
<i>Condition</i>	24,50		
<i>Paint</i>	31,30	29,80	2,95
<i>Drying</i>	31,70		
<i>Condition</i>	26,40		

<i>R6</i>	<i>Hardness Rockwell HRB</i>	<i>Rata-Rata HRB</i>	<i>Standar Deviasi</i>
<i>No Paint</i>	29,40	30,47	2,85
<i>Drying</i>	33,70		
<i>Condition</i>	28,30		
<i>Paint</i>	31,30	32,53	1,08
<i>Drying</i>	33,00		
<i>Condition</i>	33,30		

<i>R7</i>	<i>Hardness Rockwell HRB</i>	<i>Rata-Rata HRB</i>	<i>Standar Deviasi</i>
<i>No Paint</i>	23,60	24,10	2,10
<i>Drying</i>	22,30		
<i>Condition</i>	26,40		
<i>Paint</i>	37,00	37,33	0,58
<i>Drying</i>	37,00		
<i>Condition</i>	38,00		

<i>R8</i>	<i>Hardness Rockwell HRB</i>	<i>Rata-Rata HRB</i>	<i>Standar Deviasi</i>
<i>No Paint</i>	26,60	25,20	3,99
<i>Drying</i>	28,30		
<i>Condition</i>	20,70		
<i>Paint</i>	33,00	34,93	2,53
<i>Drying</i>	37,80		
<i>Condition</i>	34,00		