

Table 5.7

Measurement of roundness by Dial gauge deflections of 12-mm Diameter Mild Steel (MS) Round Bar

Mean values of Dial Gauge Deflection Readings before straightening of 12 mm Mild Steel round bar x 0.01 mm

Length in cm	Angles in Degrees																								STD DEV (mm)
	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	
12	59	59	60	60	62	61	63	64	64	66	66	66	67	67	68	67	68	66	66	64	63	62	61	61	0.02946
17	60	61	62	62	63	63	65	66	67	68	68	68	69	69	69	68	69	67	67	65	64	64	60	62	0.03033
22	62	63	64	64	65	66	67	68	69	70	71	71	71	71	70	70	70	69	68	67	65	65	59	63	0.03294
27	66	67	67	68	69	69	72	72	73	74	74	75	75	74	74	74	74	72	72	70	68	68	65	67	0.0324
32	70	71	71	72	73	73	76	77	77	78	78	79	79	78	78	79	77	76	76	73	72	70	70	70	0.03297
37	66	67	67	68	69	69	71	72	73	74	74	75	75	74	74	75	74	72	72	69	69	68	67	67	0.03038
43	62	64	64	64	65	66	67	68	68	69	70	71	71	71	71	71	70	69	69	66	66	65	64	64	0.02864
47	63	64	64	64	65	65	66	67	68	69	70	71	71	71	71	71	70	69	69	66	66	65	64	63	0.02892
53	64	64	64	64	64	65	65	67	68	69	70	71	71	71	71	71	70	70	69	67	66	65	64	63	0.02967
57	62	62	62	63	63	63	64	65	66	68	69	69	69	70	69	70	69	69	67	66	65	64	63	62	0.03016
62	61	60	60	61	61	62	62	64	65	66	68	68	68	69	68	69	69	68	66	65	64	63	62	61	0.03098
67	62	61	61	61	61	62	62	63	64	65	66	67	67	68	67	68	68	68	67	66	65	63	62	62	0.02647
73	63	63	62	62	61	61	62	63	64	64	65	66	66	67	67	68	68	68	68	67	65	64	62	62	0.02377
77	61	60	60	59	59	59	59	60	61	61	62	62	63	63	63	64	65	65	64	63	62	61	60	60	0.01878
83	58	58	57	57	57	57	57	58	58	58	58	59	59	60	60	60	61	61	61	60	59	58	57	57	0.01402
87	55	55	55	54	54	54	55	55	55	55	56	56	56	57	57	57	57	57	56	55	55	55	53	53	0.01187
93	51	52	52	51	52	52	53	52	52	53	53	53	53	54	54	54	54	53	52	51	51	51	49	50	0.01298
98	55	55	55	54	54	55	55	55	56	56	57	57	57	57	58	58	58	58	57	56	55	55	54	53	0.01377
104	58	58	57	57	57	57	58	58	59	60	60	60	61	61	61	61	62	62	62	61	60	58	58	57	0.0178

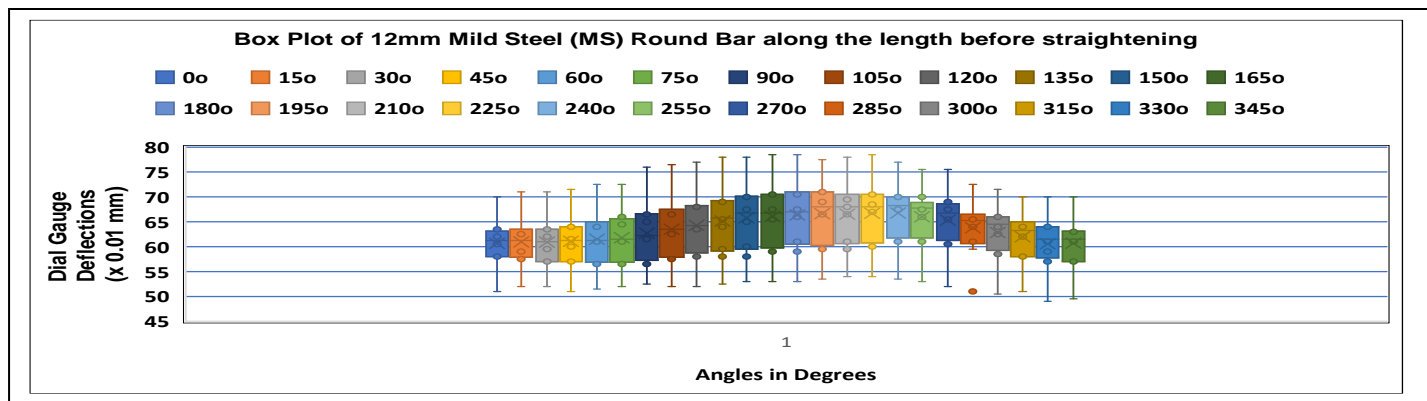


Figure 5.5(a): Box Plot of dial gauge readings dataset of mean values of 12-mm diameter Mild Steel (MS) round bar before straightening

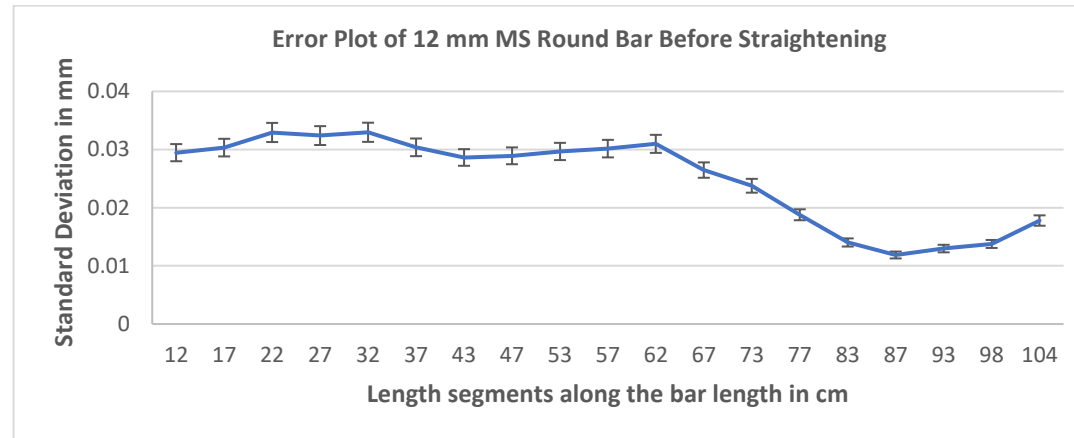


Figure 5.5(b): Error Plot of 12 mm Mild Steel Round Bar Before Straightening