

Table 5.10

Measurement of roundness by Dial gauge deflections of 10-mm Diameter Stainless Steel (SS) Round Bar Before Straightening
Mean values of Dial Gauge Deflection Readings before straightening of 10 mm Stainless 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°	
11.3	96	95	95	95	97	98	98	99	98	98	96	95	93	91	89	88	88	89	89	90	90	92	94	94	0.0362815
11.6	100	102	101	101	101	102	103	103	103	103	102	100	98	96	94	94	93	93	96	94	95	96	97	98	0.0350689
13	100	101	102	103	104	105	106	105	105	105	103	103	102	101	99	98	96	95	94	93	94	95	97	99	0.0418468
13.7	100	101	101	102	102	101	104	102	102	103	102	100	100	97	95	94	92	91	108	92	93	94	96	102	0.0462836
15	100	102	103	105	106	107	108	107	107	106	106	105	104	103	102	100	100	97	97	96	96	96	97	98	0.0404808
15.7	100	101	101	103	103	103	104	103	103	101	101	100	100	96	96	94	93	91	91	99	90	93	94	97	0.0457782
17	100	101	104	105	106	106	108	108	108	108	108	107	105	104	103	101	98	98	97	96	97	96	96	98	0.0436513
17.7	100	102	103	102	104	106	107	106	105	103	103	100	98	97	96	93	93	92	93	93	93	94	96	97	0.0498409
19.7	101	100	100	102	104	105	106	105	105	104	103	100	98	94	92	90	91	90	90	92	92	93	96	97	0.0562056
20	100	101	102	103	104	105	107	108	109	108	108	107	109	105	104	103	99	98	97	96	97	97	100	99	0.0426244
21.7	101	101	101	102	102	104	105	104	103	104	102	101	101	96	96	93	90	91	92	93	94	95	98	98	0.0471866
23	100	100	101	103	104	105	106	107	107	108	111	111	111	107	107	104	105	101	102	98	98	97	100	99	0.0426005
24.7	100	101	104	104	106	105	105	104	103	102	101	101	100	95	94	92	93	92	91	90	92	94	97	99	0.0523695
25	100	100	102	103	105	106	107	109	109	110	110	110	110	107	106	104	103	102	100	99	98	99	98	99	0.042955
26.7	100	100	100	102	102	103	104	103	101	101	99	98	98	94	94	93	93	92	94	93	92	92	92	96	0.0427556
27	100	99	101	101	103	104	107	108	108	110	110	110	110	107	105	105	105	102	102	101	100	98	98	98	0.0406426
29.7	100	99	100	103	104	105	107	109	108	107	106	103	103	98	98	99	98	96	98	96	93	96	98	98	0.0441919
30	99	98	100	101	101	103	106	105	105	108	107	108	109	109	108	106	105	104	102	100	99	97	97	98	0.0394434
31.7	100	98	96	100	103	102	104	105	106	105	105	103	102	100	99	96	96	95	95	95	94	94	94	96	0.0401367
32	99	98	100	101	102	103	103	105	105	106	107	108	109	108	107	107	105	102	100	100	98	96	96	96	0.0415657
34	100	99	101	103	102	104	105	105	105	107	107	108	110	110	110	108	108	107	105	103	102	101	99	98	0.0370146
34.7	100	100	100	101	102	103	104	104	106	107	106	106	104	103	102	99	98	96	95	96	96	96	96	97	0.038563
36.7	100	101	102	103	104	106	108	108	108	106	107	107	108	106	104	102	102	98	98	99	95	96	97	98	0.0426008
37.5	100	101	103	103	104	107	109	110	111	112	112	119	113	114	115	114	112	111	111	109	106	101	100	100	0.0555045

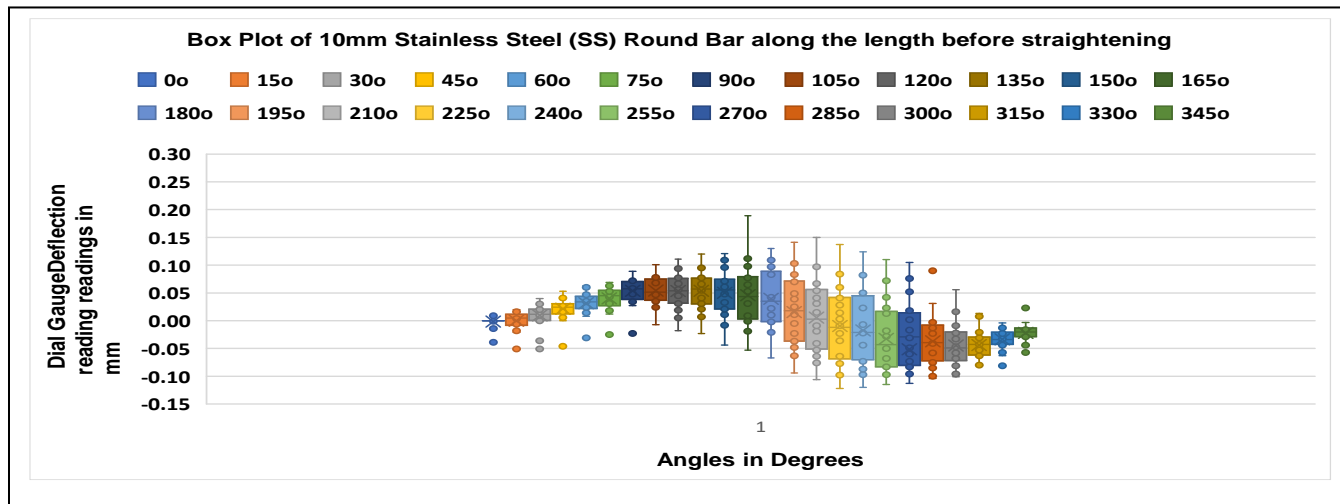


Figure 5.8(a): Box Plot of dial gauge readings dataset of mean values of 10-mm diameter Stainless Steel (SS) round bar before straightening

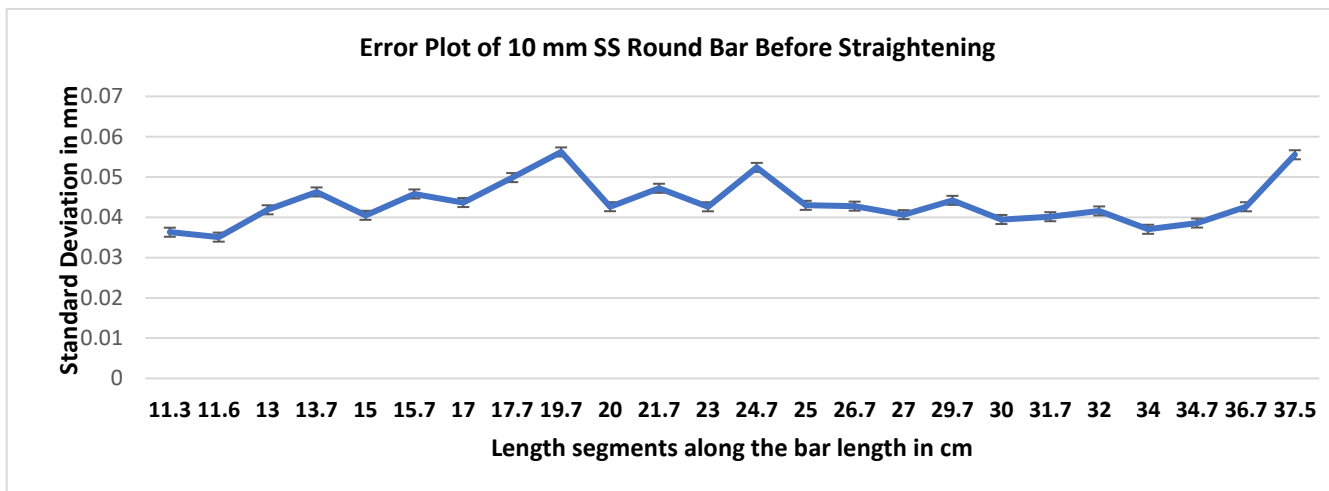


Figure 5.8(b): Error Plot of 10 mm Stainless Steel Round Bar Before Straightening