

Table 6.17 Measurement of roundness by Dial gauge deflections of 12-mm Diameter Stainless Steel (SS) Round Bar
Mean values of Dial Gauge Deflection Readings after straightening of 12 mm Stainless Steel (SS) round bar x 0.01 mm

	Angles in Degrees																								
Length in cm	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	STD DEV (mm)
5	65	64.3	63.5	63.5	63.5	64.3	65	65	65	65.3	65.5	65.8	66	65.8	65.5	65.3	65	64.5	64	64.3	64.5	64	63.5	63	0.0084
11	109.0	109	109.5	110	110.5	110	110.0	110	110.0	110	110.5	111	111.0	111	111.5	111	110.5	111	110.5	110	110.0	110	110.0	110	0.0059
15	108.0	108	108.0	108	107.5	108	108.5	109	109.0	109	109.5	110	110.0	110	110.5	110	110.0	110	109.5	110	109.5	109	109.0	109	0.0087
19	106.0	106	106.5	107	106.5	106	106.0	106	106.0	106	106.0	107	108.0	108	108.0	108	108.5	108	108.0	108	108.5	108	108.0	108	0.0102
24.5	108.5	108	108.0	108	108.0	108	107.0	107	107.5	108	108.0	109	109.0	109	109.0	110	110.5	110	110.0	111	111.0	111	110.0	110	0.012
31	107.0	108	109.0	109	108.0	108	108.0	108	107.0	107	106.5	107	108.0	108	108.0	108	108.5	109	108.5	109	109.5	110	109.5	110	0.009
35	106.0	106	106.0	106	106.0	106	106.0	106	106.0	106	106.0	106	106.0	106	105.0	106	107.0	107	107.0	107	107.5	107	105.5	106	0.0058
40	104.0	105	105.0	105	105.0	105	105.0	105	105.5	106	105.5	106	106.0	106	106.0	106	106.0	106	106.0	106	106.0	106	106.0	106	0.0057
45	106.0	105	106.0	105	104.0	105	106.0	106	106.0	106	106.0	106	106.0	106	105.0	106	106.0	107	107.0	107	106.0	106	106.0	106	0.0062
48	105.0	106	107.0	107	107.0	108	108.0	108	108.0	108	108.0	108	107.0	107	107.0	107	107.5	107	107.0	107	106.5	107	107.0	107	0.0069
53	108.0	108	107.0	107	107.5	107	107.0	107	106.0	106	106.0	106	106.0	106	106.5	107	106.5	107	107.5	108	107.5	108	107.5	108	0.0065
60	107.5	108	108.5	109	108.5	108	108.0	109	109.0	109	109.0	109	108.5	109	109.0	109	108.0	109	109.0	109	108.0	108	108.5	108	0.0039
65	108.0	108	108.5	109	109.5	110	110.0	111	111.0	110	109.0	109	109.5	110	109.5	109	109.0	109	108.5	108	108.0	109	109.0	109	0.0077
70	108.5	109	109.0	109	109.5	110	110.0	110	110.5	111	110.5	111	110.5	110	110.0	110	110.0	110	109.5	109	109.0	109	109.0	109	0.0064
75	108.0	110	111.0	111	111.0	111	110.5	111	111.0	111	111.0	111	111.0	111	110.5	111	110.5	110	109.5	109	109.0	109	109.5	109	0.0086
80	112.0	112	111.5	112	112.0	113	113.0	113	113.0	113	113.0	113	113.0	113	113.0	113	112.5	113	112.5	113	112.5	113	112.5	113	0.0046
84	111.0	112	113.0	113	113.5	114	114.0	114	113.5	113	113.0	113	113.0	113	113.0	113	113.0	113	112.5	113	112.5	112	112.0	113	0.0066

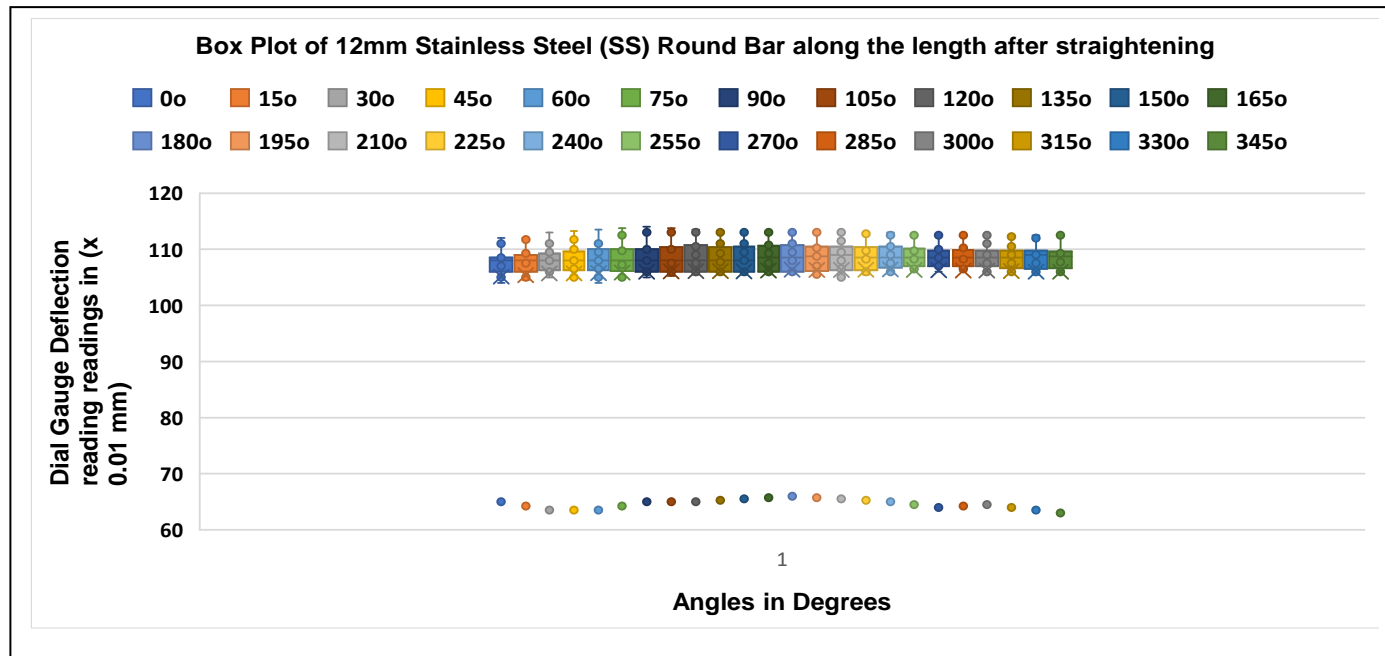


Figure 6.22(a): Box Plot of dial gauge readings dataset of mean values of 12-mm diameter Stainless Steel (SS) round bar before straightening

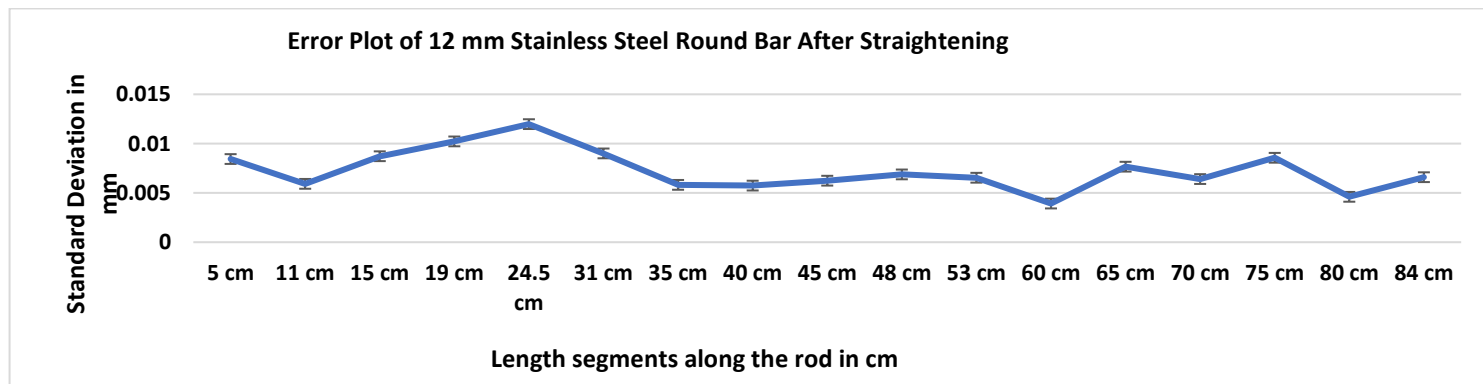


Figure 6.22(b): Error Plot of dial gauge readings on 12 mm Stainless Steel Round Bar after straightening