

Table 6.14 Measurement of roundness by Dial gauge deflections of 6-mm Diameter Stainless Steel (SS) Round Bar
Mean values of Dial Gauge Deflection Readings after straightening of 6 mm 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)
15	193	193	191	188	185	181	178	175	170	168	167	159	160	158	153	157	160	165	174	179	182	188	191	194	0.1343
20	192	191	192	193	191	188	187	185	179	176	172	168	164	162	156	163	159	163	167	174	179	185	189	192	0.1248
25	192	193	194	194	194	193	190	187	186	184	182	178	176	174	171	168	165	168	166	172	179	184	189	192	0.1002
30	194	196	195	196	195	196	195	193	188	186	181	176	175	178	175	172	163	166	170	177	176	188	186	198	0.109
35	192	195	194	195	196	197	194	192	190	188	186	183	173	176	172	169	168	167	172	168	173	176	181	188	0.1062
40	194	197	196	196	197	198	196	195	193	190	188	185	178	177	174	167	166	165	165	169	175	182	183	195	0.1191
45	192	196	198	199	198	199	199	194	191	187	186	184	183	180	176	173	169	171	166	166	172	176	185	186	0.112
50	189	192	195	194	196	195	197	191	188	185	184	183	180	179	174	171	175	172	169	168	174	178	185	179	0.0925
54	188	190	192	193	194	193	194	189	182	183	181	177	175	176	172	170	172	173	175	171	182	182	186	193	0.084
57.5	190	189	190	191	192	193	191	187	185	182	179	176	173	171	170	173	168	169	176	175	184	183	184	190	0.0832
62.5	189	188	189	190	189	192	188	185	183	180	178	174	171	168	169	168	166	172	179	174	185	184	186	190	0.0842
66.5	187	186	188	189	188	190	187	182	180	178	175	172	169	167	168	169	169	171	183	181	184	185	188	187	0.0796
71.5	186	184	186	187	186	188	186	184	178	175	176	174	170	163	164	165	172	177	181	184	182	184	189	188	0.08
75.3	178	177	174	168	173	178	181	172	175	157	165	163	167	160	165	172	175	184	187	189	186	183	188	187	0.0934

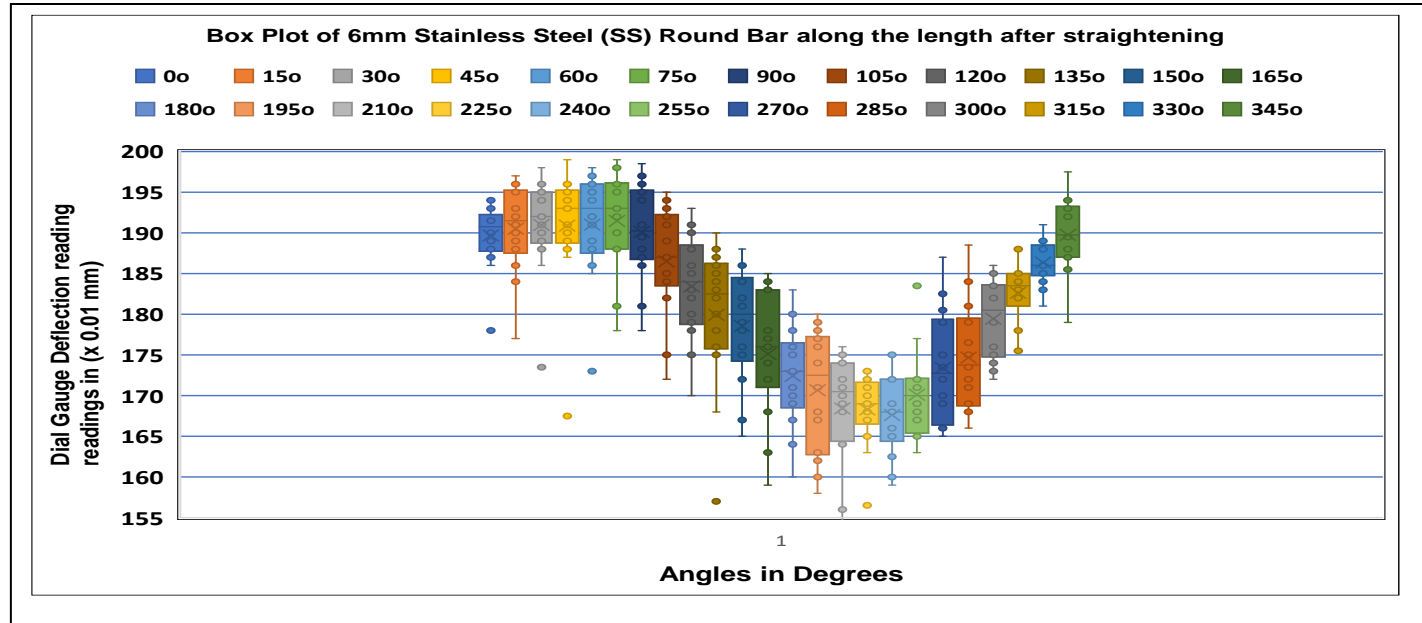


Figure 6.19(a): Box Plot of dial gauge readings dataset of mean values of 6-mm diameter Stainless Steel (SS) round bar before straightening

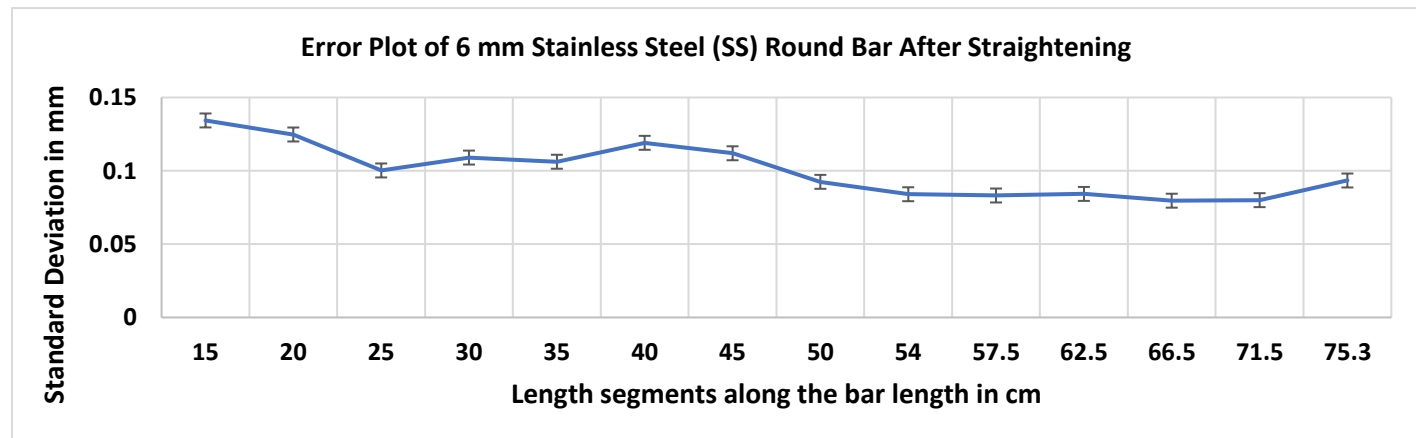


Figure 6.19(b): Error Plot of dial gauge readings on 6 mm Stainless Steel Round Bar after straightening