

Table 6.22

Measurement of roundness by Dial gauge deflections of 6-mm Diameter Copper (Cu) Round Bar After Straightening
Mean values of Dial Gauge Deflection Readings after straightening of 6 mm Copper (Cu) 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)
16.0	301.5	297.0	288.0	275.5	262.5	251.0	239.5	246.0	248.0	252.0	276.0	287.0	270.0	265.0	246.0	236.0	241.5	256.0	269.0	284.0	296.0	302.5	308.5	310.5	0.237
20.0	281.0	283.0	277.0	274.0	267.0	250.5	238.0	243.0	221.5	213.5	226.0	243.0	251.0	256.0	237.0	238.0	240.0	252.0	260.0	268.0	274.5	279.5	282.5	283.5	0.2119
25.0	268.0	276.0	272.0	269.0	263.0	256.0	236.0	244.0	232.5	232.5	235.5	239.0	241.0	241.5	244.5	245.0	245.0	242.5	241.0	240.5	239.0	247.5	237.0	245.5	0.1289
30.0	256.0	259.0	264.0	263.0	257.0	248.0	243.5	247.0	249.5	245.0	252.0	253.5	252.0	251.0	248.0	243.5	237.0	230.0	234.0	236.0	232.0	241.0	247.0	255.0	0.0934
35.0	243.0	248.0	253.0	257.0	253.0	238.5	245.5	250.5	254.5	256.5	256.0	254.5	256.0	254.0	247.0	240.5	236.0	231.0	231.0	230.0	223.0	238.0	245.0	248.0	0.099
40.0	234.0	236.0	243.0	241.0	244.0	250.0	248.0	254.0	255.0	253.0	252.0	251.0	253.0	254.0	252.5	243.5	238.0	238.0	242.0	247.0	234.0	234.0	241.0	241.0	0.0715
45.0	233.0	228.0	238.0	237.0	246.0	251.0	255.0	255.0	261.0	251.0	255.0	258.0	263.0	264.0	265.5	252.5	245.0	245.0	246.0	249.0	243.0	240.0	235.0	232.0	0.1069
50.0	235.0	229.0	227.0	236.0	234.0	252.0	254.0	257.0	265.0	258.0	262.0	265.0	264.0	263.0	266.0	264.0	260.0	252.0	234.0	242.0	241.0	245.0	234.0	236.0	0.1343
55.0	237.0	234.0	236.0	237.0	233.5	243.0	257.0	260.0	262.0	262.0	265.0	268.0	262.0	261.0	268.0	265.0	261.0	256.0	254.5	232.0	208.0	243.0	237.0	239.0	0.1546
60.0	245.0	242.0	239.0	236.0	237.0	245.0	256.0	259.0	270.0	265.0	268.0	267.0	264.0	259.0	264.0	264.0	263.0	260.0	261.0	256.0	242.5	241.0	243.0	245.0	0.1125
65.0	242.0	246.0	243.0	241.0	245.0	241.0	251.0	255.0	261.0	261.5	267.0	264.0	263.0	261.0	259.0	262.0	260.0	263.0	267.5	250.5	241.0	238.0	241.0	240.0	0.1023
70.0	234.0	238.0	241.0	245.0	248.0	246.0	248.0	252.0	254.0	261.5	265.0	262.0	261.0	263.0	258.0	261.0	262.0	261.0	268.0	246.0	239.0	237.0	237.0	235.0	0.1102
75.0	226.0	225.0	237.0	238.0	239.0	242.0	244.0	249.0	256.0	258.0	255.0	259.0	264.0	261.0	257.0	258.0	259.0	264.5	246.5	243.0	236.0	232.0	227.0	224.0	0.1324
80.0	221.0	223.0	229.0	234.0	238.0	243.0	241.5	246.0	258.0	261.0	259.0	258.0	262.0	259.0	256.0	262.0	262.5	243.0	241.0	237.0	226.0	224.0	223.0	223.0	0.151
86.0	233.0	236.0	235.0	237.0	242.0	246.5	259.5	261.0	259.0	255.0	258.0	256.0	258.0	257.0	258.0	263.0	247.5	242.0	236.0	236.0	235.0	233.0	235.0	234.0	0.1114

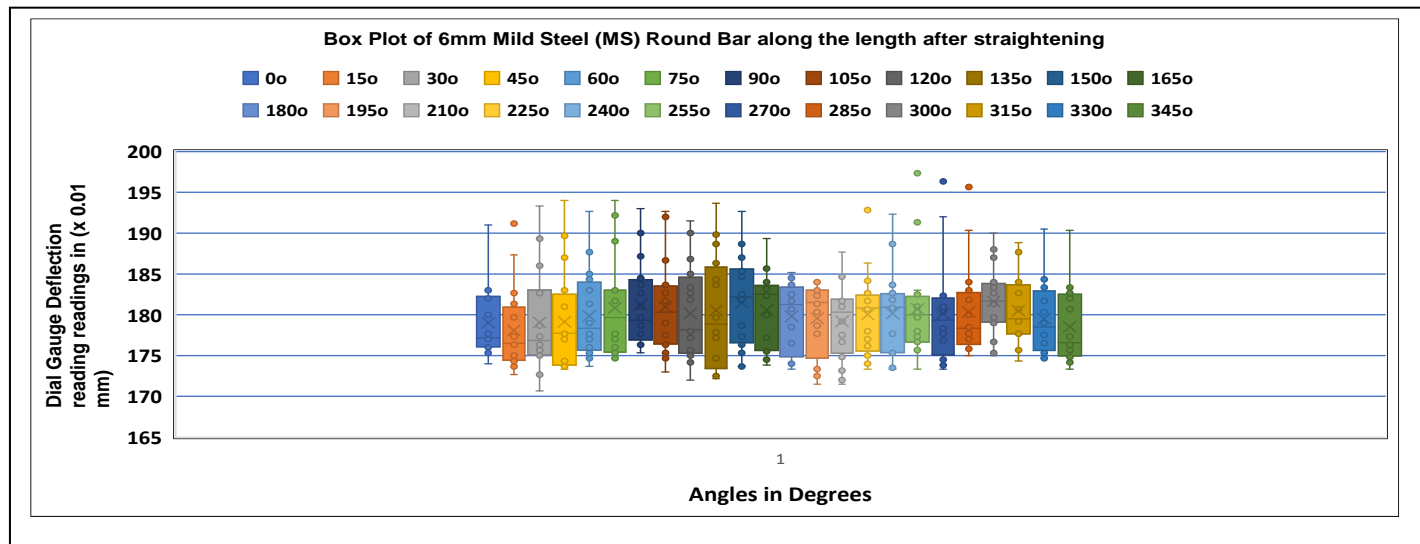


Figure 6.27(a): Box Plot of dial gauge readings dataset of mean values of 6-mm diameter Copper (Cu) round bar before straightening

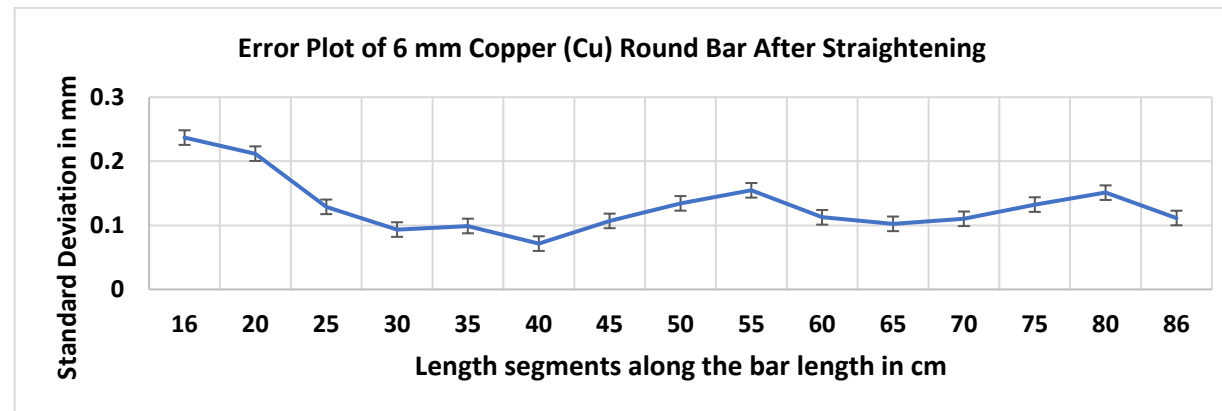


Figure 6.27(b): Error Plot of dial gauge readings on 6 mm Copper Round Bar after straightening