

Summary



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Position	Eccentricity (mm)	Phase Angle	Runout	Local Shell Deformation	Distance	Cumulative Distance
1	7.93	170.26	26.00	15.23	1700	1700
2	5.64	145.47	32.00	22.12	1800	3500
3	4.30	172.08	14.00	5.59	2300	5800
4	6.75	13.12	18.00	10.09	2200	8000
5	12.62	37.34	33.00	18.50	2400	10400
6	13.61	29.58	68.00	40.27	2500	12900
7	16.35	12.28	51.00	32.83	1200	14100
8	12.41	5.18	47.00	31.15	2500	16600
9	11.95	31.65	54.00	28.39	2500	19100
10	4.21	292.35	67.00	31.12	2500	21600
11	2.95	356.11	52.00	24.94	2500	24100
12	2.88	352.32	57.00	24.80	1700	25800
13	3.43	17.95	20.00	9.21	2200	28000
14	5.73	304.03	22.00	15.15	2100	30100
15	18.64	330.42	62.00	28.92	2500	32600
16	6.69	355.01	35.00	20.92	2500	35100
17	15.79	298.97	61.00	30.83	2500	37600
18	11.90	329.73	45.00	17.18	1400	39000
19	13.41	338.32	39.00	18.36	2600	41600
20	8.15	330.97	27.00	12.71	2400	44000
21	7.84	303.29	26.00	13.56	2000	46000
22	7.47	327.61	26.00	13.53	2100	48100
23	0.98	223.51	9.00	4.29	2000	50100
24	2.64	63.02	8.00	4.18	1900	52000
25	1.88	151.43	15.00	4.97	1500	53500
26	3.56	336.25	19.00	6.09	2700	56200
27	3.66	251.00	28.00	13.44	2100	58300
28	11.30	249.58	28.00	18.47	3500	61800

29	10.66	223.64	30.00	17.53	2500	64300
30	8.70	215.50	28.00	18.26	2500	66800
31	0.90	225.40	7.00	3.15	2500	69300
32	2.29	199.34	10.00	5.35	2700	72000
33	1.13	186.27	9.00	3.91	2000	74000
34	3.14	214.68	16.00	7.53	2500	76500
35	2.69	214.29	17.00	9.82	1800	78300

Shell eccentricity and Run out deformation Graph

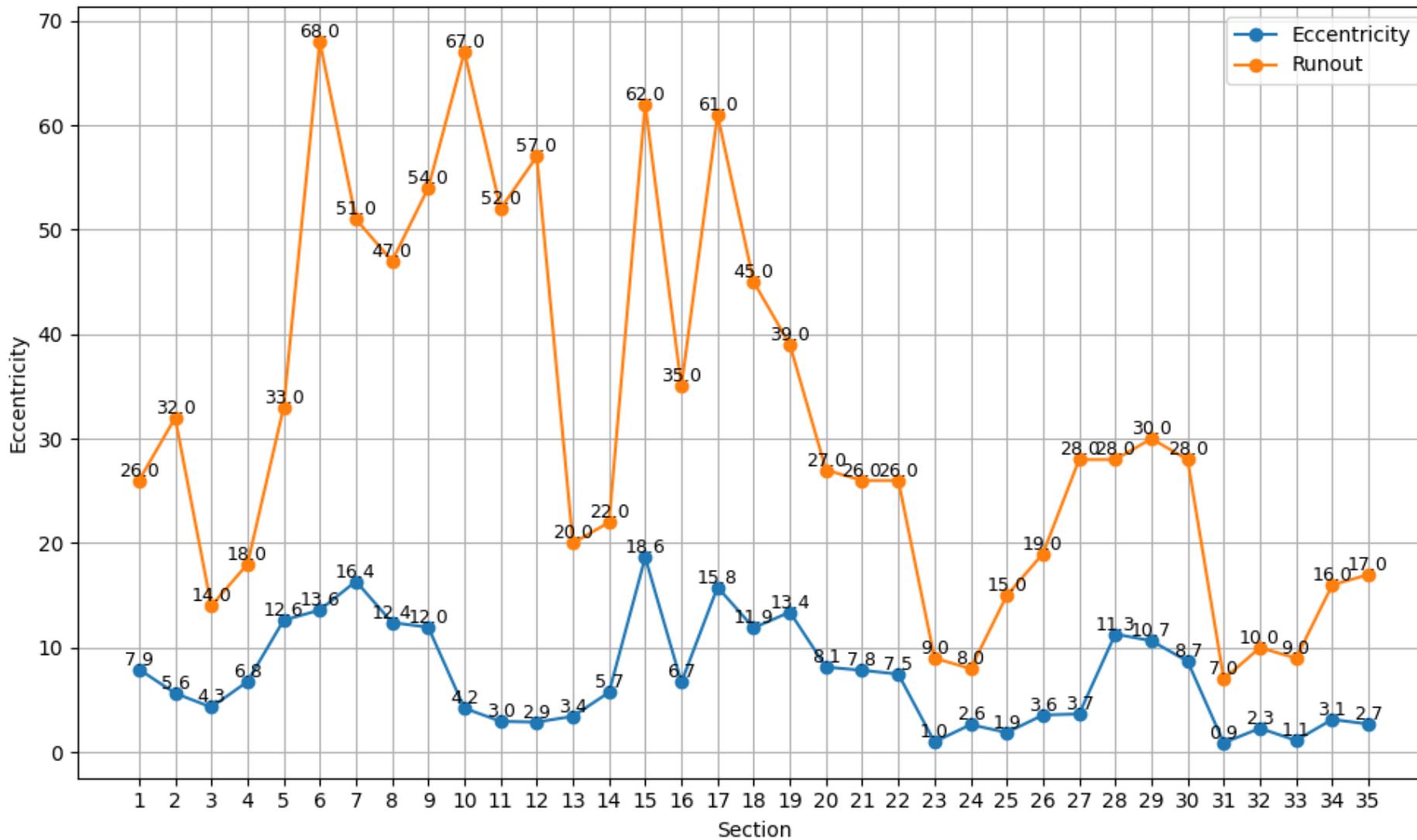


Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12



Temperature Data



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Position	Diff	Min	Max	AVG
1	10.00	369.00	359.00	364.00
2	23.00	524.00	501.00	512.50
3	2.00	84.00	82.00	83.00
4	18.00	99.00	81.00	90.00
5	26.00	43.00	17.00	30.00
6	44.00	79.00	35.00	57.00
7	44.00	77.00	33.00	55.00
8	0.00	71.00	71.00	71.00
9	32.00	458.00	426.00	442.00
10	32.00	510.00	478.00	494.00
11	17.00	58.00	41.00	49.50
12	21.00	241.00	220.00	230.50
13	12.00	60.00	48.00	54.00
14	22.00	87.00	65.00	76.00
15	38.00	494.00	456.00	475.00
16	33.00	75.00	42.00	58.50
17	61.00	615.00	554.00	584.50
18	45.00	724.00	679.00	701.50
19	37.00	41.00	4.00	22.50
20	5.00	168.00	163.00	165.30
21	3.00	163.00	160.00	161.20
22	5.00	168.00	163.00	165.30
23	27.00	178.00	151.00	164.60
24	5.00	177.00	172.00	174.50
25	14.00	117.00	103.00	109.90
26	18.00	89.00	71.00	79.90
27	18.00	89.00	71.00	80.00
28	11.00	123.00	112.00	117.50
29	4.00	127.00	123.00	125.20
30	8.00	128.00	120.00	123.70
31	8.00	130.00	122.00	126.10
32	2.00	127.00	125.00	126.00
33	8.00	125.00	117.00	121.10
34	1.00	45.00	44.00	44.50
35	4.00	104.00	100.00	102.00

Shell temperature profile Graph

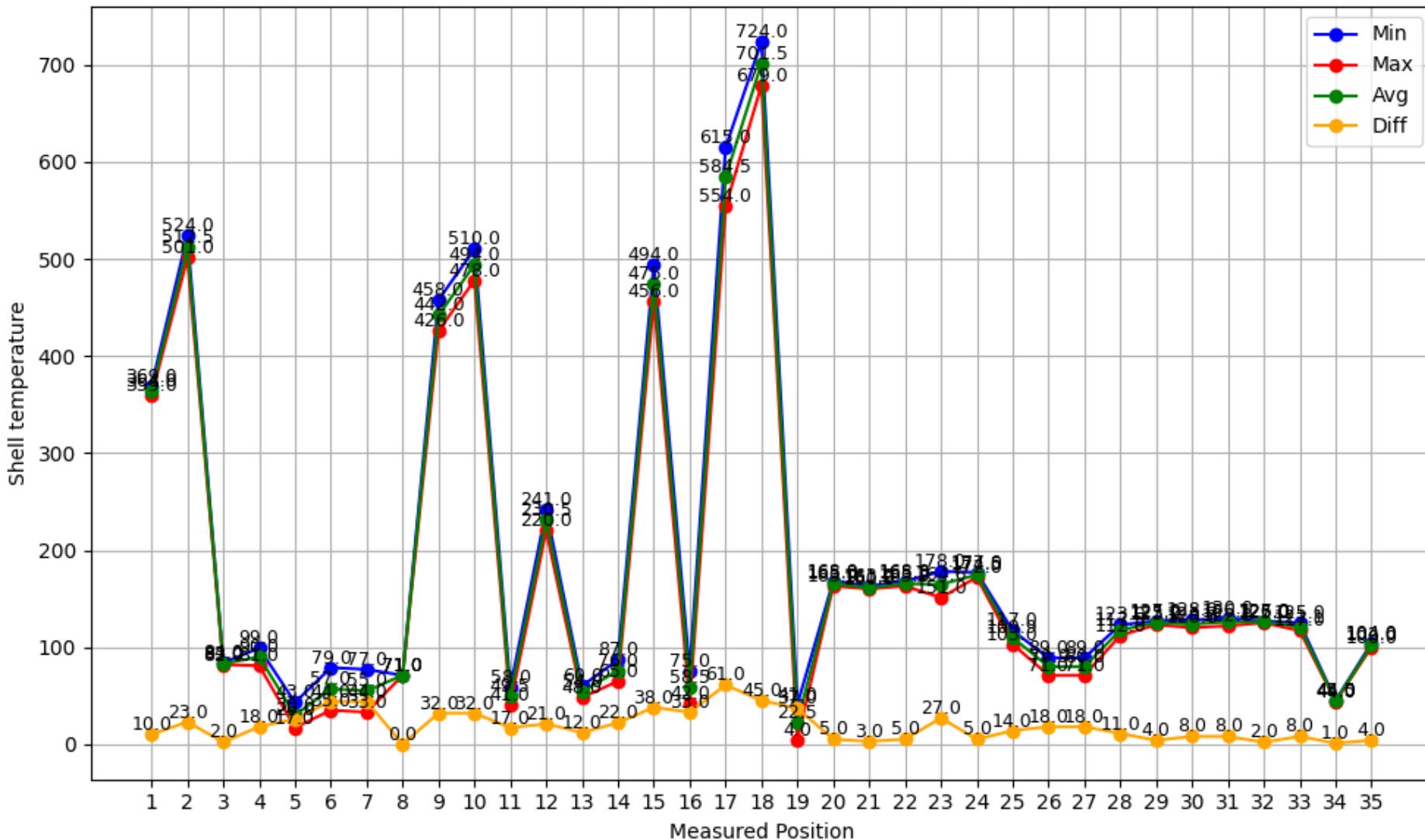


Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 1

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	369.00	-7.42	0.00
2	10.59	367.00	-5.80	2.00
3	21.18	362.00	-1.43	7.00
4	31.76	361.00	-1.30	8.00
5	42.35	361.00	-2.37	8.00
6	52.94	352.00	5.40	17.00
7	63.53	349.00	7.04	20.00
8	74.12	349.00	5.61	20.00
9	84.71	351.00	2.15	18.00
10	95.29	353.00	-1.29	16.00
11	105.88	354.00	-3.66	15.00
12	116.47	349.00	0.08	20.00
13	127.06	345.00	2.99	24.00
14	137.65	348.00	-0.91	21.00
15	148.24	348.00	-1.58	21.00
16	158.82	347.00	-1.01	22.00
17	169.41	343.00	2.84	26.00
18	180.00	347.00	-1.05	22.00
19	190.59	351.00	-4.67	18.00
20	201.18	351.00	-4.04	18.00
21	211.76	349.00	-1.17	20.00
22	222.35	350.00	-1.11	19.00
23	232.94	349.00	1.12	20.00
24	243.53	350.00	1.48	19.00
25	254.12	350.00	2.91	19.00
26	264.71	354.00	0.38	15.00
27	275.29	355.00	0.82	14.00
28	285.88	355.00	2.19	14.00
29	296.47	355.00	3.45	14.00
30	307.06	356.00	3.54	13.00
31	317.65	360.00	0.44	9.00
32	328.24	359.00	2.12	10.00
33	338.82	363.00	-1.46	6.00
34	349.41	366.00	-4.30	3.00
1	360.00	369.00	-7.41	0.00

Section Parameters:

Runout = 26.00 mm

Eccentricity = 7.93 mm

Angle of Occurrence = 170.26°

Local Deformation:

Bludge In = 7.04 mm

Bludge Out = -7.42 mm

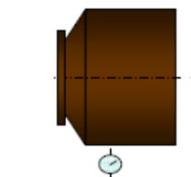
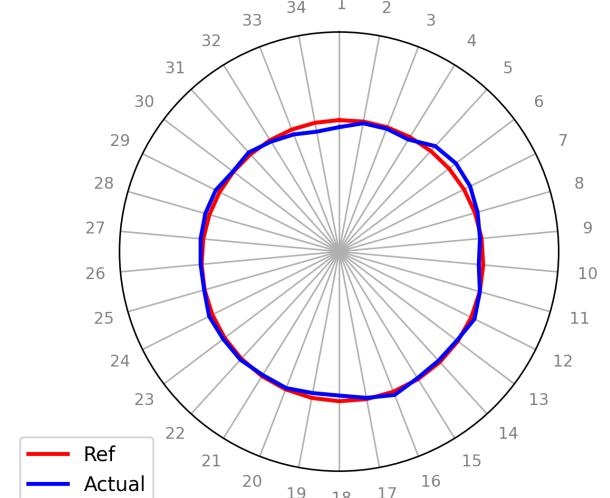
Temperature:

MIN Temp = 369.00°

MAX Temp = 359.00°

AVG Temp = 364.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 2

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	504.00	2.53	20.00
2	10.59	502.00	3.86	22.00
3	21.18	504.00	1.06	20.00
4	31.76	503.00	1.15	21.00
5	42.35	502.00	1.16	22.00
6	52.94	505.00	-2.87	19.00
7	63.53	508.00	-6.91	16.00
8	74.12	511.00	-10.92	13.00
9	84.71	502.00	-2.87	22.00
10	95.29	500.00	-1.73	24.00
11	105.88	499.00	-1.46	25.00
12	116.47	494.00	2.95	30.00
13	127.06	492.00	4.53	32.00
14	137.65	494.00	2.30	30.00
15	148.24	492.00	4.25	32.00
16	158.82	496.00	0.40	28.00
17	169.41	494.00	2.73	30.00
18	180.00	497.00	0.24	27.00
19	190.59	499.00	-1.10	25.00
20	201.18	499.00	-0.30	25.00
21	211.76	500.00	-0.39	24.00
22	222.35	500.00	0.60	24.00
23	232.94	499.00	2.63	25.00
24	243.53	497.00	5.67	27.00
25	254.12	494.00	9.68	30.00
26	264.71	524.00	-19.36	0.00
27	275.29	518.00	-12.51	6.00
28	285.88	512.00	-5.77	12.00
29	296.47	509.00	-2.18	15.00
30	307.06	503.00	4.24	21.00
31	317.65	502.00	5.47	22.00
32	328.24	505.00	2.52	19.00
33	338.82	503.00	4.38	21.00
34	349.41	501.00	6.04	23.00
1	360.00	504.00	2.54	20.00

Section Parameters:

Runout = 32.00 mm

Eccentricity = 5.64 mm

Angle of Occurrence = 145.47°

Local Deformation:

Bludge In = 9.68 mm

Bludge Out = -19.36 mm

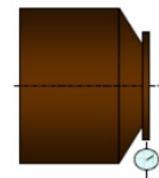
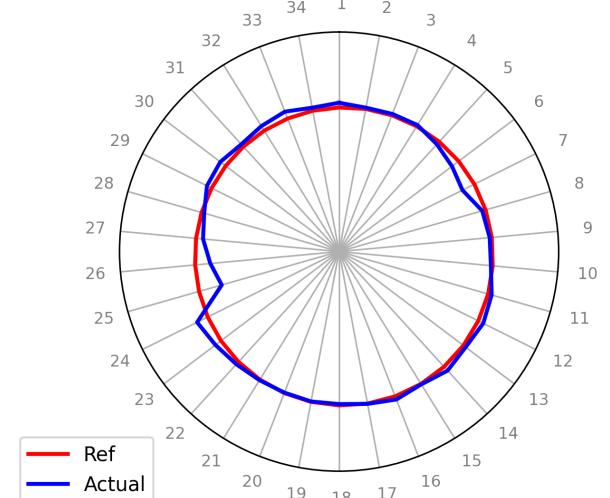
Temperature:

MIN Temp = 524.00°

MAX Temp = 501.00°

AVG Temp = 512.50°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 3

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	83.00	-0.32	1.00
2	10.59	78.00	4.49	6.00
3	21.18	78.00	4.17	6.00
4	31.76	79.00	2.72	5.00
5	42.35	80.00	1.16	4.00
6	52.94	80.00	0.51	4.00
7	63.53	81.00	-1.22	3.00
8	74.12	80.00	-0.99	4.00
9	84.71	79.00	-0.79	5.00
10	95.29	78.00	-0.57	6.00
11	105.88	77.00	-0.33	7.00
12	116.47	76.00	-0.02	8.00
13	127.06	77.00	-1.63	7.00
14	137.65	77.00	-2.14	7.00
15	148.24	76.00	-1.52	8.00
16	158.82	75.00	-0.78	9.00
17	169.41	77.00	-2.89	7.00
18	180.00	74.00	0.15	10.00
19	190.59	73.00	1.33	11.00
20	201.18	74.00	0.65	10.00
21	211.76	72.00	3.10	12.00
22	222.35	70.00	5.66	14.00
23	232.94	73.00	3.32	11.00
24	243.53	75.00	2.04	9.00
25	254.12	78.00	-0.19	6.00
26	264.71	80.00	-1.39	4.00
27	275.29	82.00	-2.61	2.00
28	285.88	84.00	-3.85	0.00
29	296.47	84.00	-3.16	0.00
30	307.06	83.00	-1.55	1.00
31	317.65	84.00	-2.04	0.00
32	328.24	82.00	0.35	2.00
33	338.82	83.00	-0.40	1.00
34	349.41	84.00	-1.29	0.00
1	360.00	83.00	-0.32	1.00

Section Parameters:

Runout = 14.00 mm

Eccentricity = 4.30 mm

Angle of Occurrence = 172.08°

Local Deformation:

Bludge In = 5.66 mm

Bludge Out = -3.85 mm

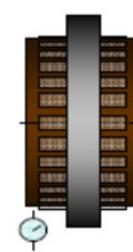
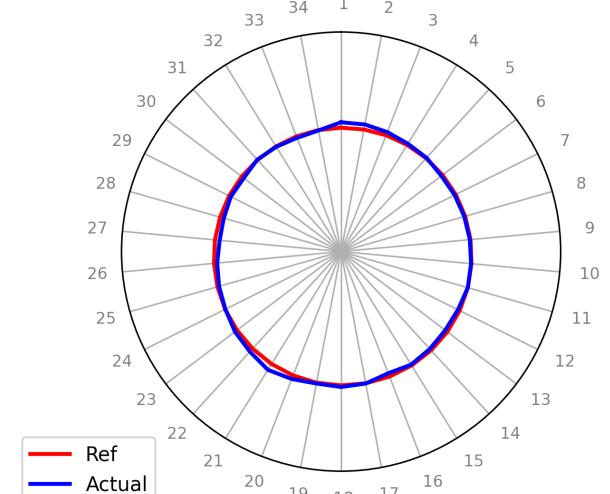
Temperature:

MIN Temp = 84.00°

MAX Temp = 82.00°

AVG Temp = 83.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 4

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	83.00	-0.67	16.00
2	10.59	83.00	-0.84	16.00
3	21.18	82.00	0.22	17.00
4	31.76	83.00	-0.49	16.00
5	42.35	84.00	-0.98	15.00
6	52.94	86.00	-2.28	13.00
7	63.53	86.00	-1.40	13.00
8	74.12	86.00	-0.37	13.00
9	84.71	87.00	-0.23	12.00
10	95.29	85.00	2.98	14.00
11	105.88	85.00	4.23	14.00
12	116.47	89.00	1.46	10.00
13	127.06	93.00	-1.36	6.00
14	137.65	92.00	0.73	7.00
15	148.24	93.00	0.69	6.00
16	158.82	96.00	-1.52	3.00
17	169.41	96.00	-0.91	3.00
18	180.00	95.00	0.48	4.00
19	190.59	95.00	0.65	4.00
20	201.18	99.00	-3.40	0.00
21	211.76	97.00	-1.69	2.00
22	222.35	97.00	-2.19	2.00
23	232.94	97.00	-2.90	2.00
24	243.53	90.00	3.22	9.00
25	254.12	91.00	1.19	8.00
26	264.71	88.00	3.06	11.00
27	275.29	86.00	3.84	13.00
28	285.88	88.00	0.60	11.00
29	296.47	88.00	-0.63	11.00
30	307.06	89.00	-2.82	10.00
31	317.65	86.00	-0.90	13.00
32	328.24	85.00	-0.86	14.00
33	338.82	81.00	2.34	18.00
34	349.41	82.00	0.73	17.00
1	360.00	83.00	-0.66	16.00

Section Parameters:

Runout = 18.00 mm

Eccentricity = 6.75 mm

Angle of Occurrence = 13.12°

Local Deformation:

Bludge In = 4.23 mm

Bludge Out = -3.40 mm

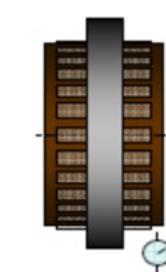
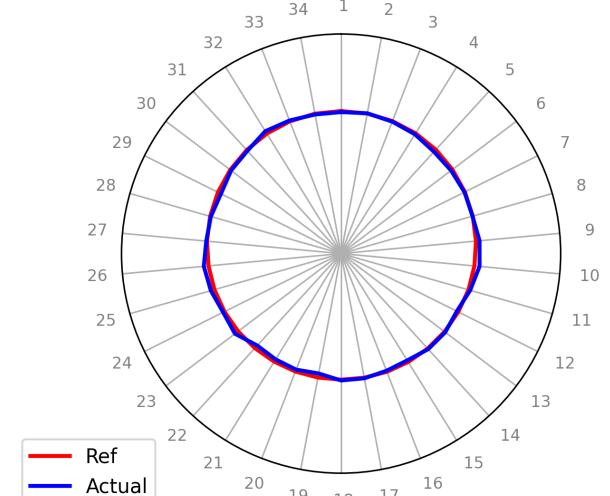
Temperature:

MIN Temp = 99.00°

MAX Temp = 81.00°

AVG Temp = 90.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 5

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	15.00	-0.54	28.00
2	10.59	13.00	0.22	30.00
3	21.18	12.00	0.37	31.00
4	31.76	10.00	1.93	33.00
5	42.35	14.00	-2.08	29.00
6	52.94	15.00	-2.66	28.00
7	63.53	15.00	-1.83	28.00
8	74.12	15.00	-0.62	28.00
9	84.71	18.00	-2.06	25.00
10	95.29	21.00	-3.21	22.00
11	105.88	19.00	0.87	24.00
12	116.47	23.00	-0.89	20.00
13	127.06	20.00	4.42	23.00
14	137.65	18.00	8.74	25.00
15	148.24	25.00	3.99	18.00
16	158.82	28.00	3.08	15.00
17	169.41	31.00	1.94	12.00
18	180.00	41.00	-6.48	2.00
19	190.59	39.00	-3.24	4.00
20	201.18	43.00	-6.39	0.00
21	211.76	40.00	-2.94	3.00
22	222.35	38.00	-0.93	5.00
23	232.94	37.00	-0.34	6.00
24	243.53	36.00	-0.17	7.00
25	254.12	36.00	-1.38	7.00
26	264.71	30.00	3.06	13.00
27	275.29	24.00	7.21	19.00
28	285.88	28.00	1.14	15.00
29	296.47	28.00	-1.10	15.00
30	307.06	27.00	-2.41	16.00
31	317.65	21.00	1.27	22.00
32	328.24	18.00	2.02	25.00
33	338.82	18.00	-0.07	25.00
34	349.41	17.00	-0.94	26.00
1	360.00	15.00	-0.52	28.00

Section Parameters:

Runout = 33.00 mm

Eccentricity = 12.62 mm

Angle of Occurrence = 37.34°

Local Deformation:

Bludge In = 8.74 mm

Bludge Out = -6.48 mm

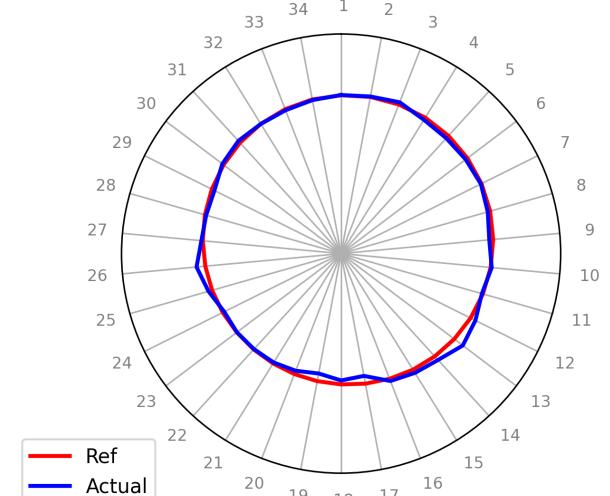
Temperature:

MIN Temp = 43.00°

MAX Temp = 17.00°

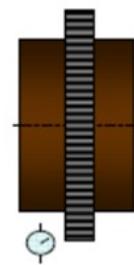
AVG Temp = 30.00°

Shell profile eccentricity Diagram



Ref

Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 6

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	30.00	-3.11	49.00
2	10.59	32.00	-6.14	47.00
3	21.18	28.00	-2.73	51.00
4	31.76	36.00	-10.87	43.00
5	42.35	33.00	-7.54	46.00
6	52.94	34.00	-7.76	45.00
7	63.53	27.00	0.44	52.00
8	74.12	32.00	-2.97	47.00
9	84.71	36.00	-5.06	43.00
10	95.29	13.00	20.13	66.00
11	105.88	12.00	23.50	67.00
12	116.47	13.00	24.98	66.00
13	127.06	11.00	29.49	68.00
14	137.65	22.00	20.94	57.00
15	148.24	79.00	-33.76	0.00
16	158.82	63.00	-15.68	16.00
17	169.41	65.00	-15.88	14.00
18	180.00	67.00	-16.45	12.00
19	190.59	69.00	-17.41	10.00
20	201.18	69.00	-16.81	10.00
21	211.76	73.00	-20.67	6.00
22	222.35	62.00	-10.00	17.00
23	232.94	41.00	10.23	38.00
24	243.53	24.00	26.03	55.00
25	254.12	17.00	31.45	62.00
26	264.71	18.00	28.53	61.00
27	275.29	33.00	11.35	46.00
28	285.88	48.00	-6.02	31.00
29	296.47	54.00	-14.50	25.00
30	307.06	44.00	-7.01	35.00
31	317.65	33.00	1.54	46.00
32	328.24	30.00	2.24	49.00
33	338.82	34.00	-3.85	45.00
34	349.41	35.00	-6.64	44.00
1	360.00	30.00	-3.08	49.00

Section Parameters:

Runout = 68.00 mm

Eccentricity = 13.61 mm

Angle of Occurrence = 29.58°

Local Deformation:

Bludge In = 31.45 mm

Bludge Out = -33.76 mm

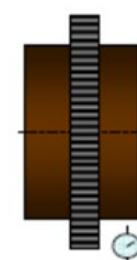
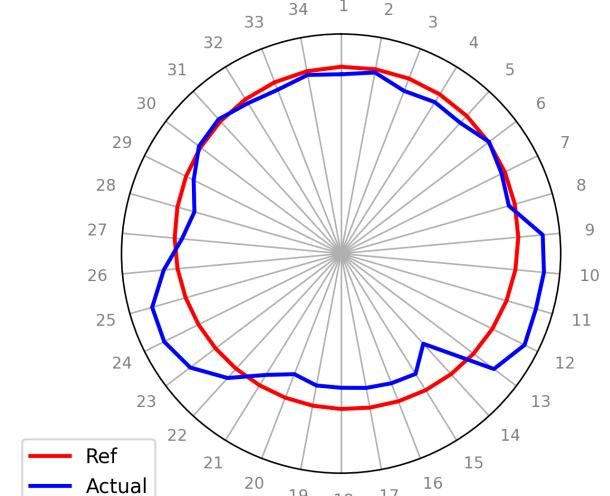
Temperature:

MIN Temp = 79.00°

MAX Temp = 35.00°

AVG Temp = 57.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 7

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	29.00	-0.81	48.00
2	10.59	28.00	-0.18	49.00
3	21.18	28.00	0.01	49.00
4	31.76	26.00	2.75	51.00
5	42.35	29.00	1.02	48.00
6	52.94	37.00	-5.24	40.00
7	63.53	35.00	-1.07	42.00
8	74.12	30.00	6.44	47.00
9	84.71	27.00	12.22	50.00
10	95.29	32.00	10.17	45.00
11	105.88	33.00	12.18	44.00
12	116.47	30.00	18.16	47.00
13	127.06	50.00	1.01	27.00
14	137.65	54.00	-0.38	23.00
15	148.24	74.00	-18.09	3.00
16	158.82	77.00	-19.20	0.00
17	169.41	76.00	-16.77	1.00
18	180.00	75.00	-14.86	2.00
19	190.59	73.00	-12.49	4.00
20	201.18	71.00	-10.67	6.00
21	211.76	66.00	-6.41	11.00
22	222.35	43.00	15.33	34.00
23	232.94	30.00	26.59	47.00
24	243.53	27.00	27.43	50.00
25	254.12	30.00	21.92	47.00
26	264.71	38.00	11.14	39.00
27	275.29	47.00	-0.80	30.00
28	285.88	60.00	-16.82	17.00
29	296.47	54.00	-13.80	23.00
30	307.06	50.00	-12.64	27.00
31	317.65	35.00	-0.26	42.00
32	328.24	36.00	-3.55	41.00
33	338.82	33.00	-2.45	44.00
34	349.41	39.00	-9.88	38.00
1	360.00	29.00	-0.80	48.00

Section Parameters:

Runout = 51.00 mm

Eccentricity = 16.35 mm

Angle of Occurrence = 12.28°

Local Deformation:

Bludge In = 27.43 mm

Bludge Out = -19.20 mm

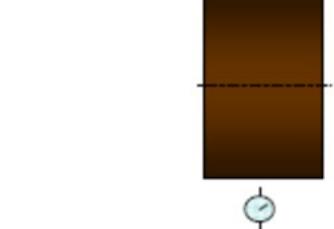
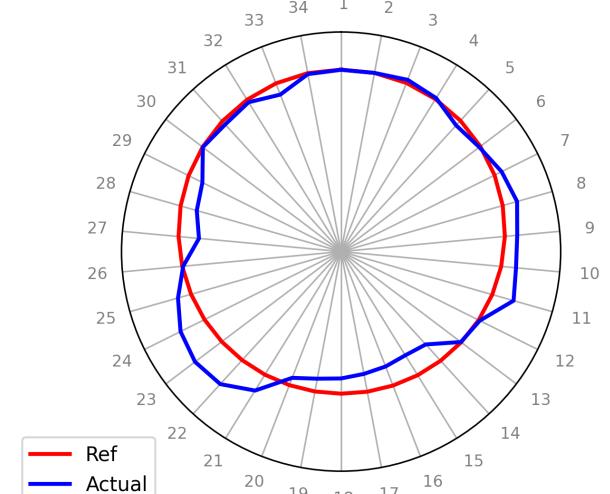
Temperature:

MIN Temp = 77.00°

MAX Temp = 33.00°

AVG Temp = 55.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 8

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	36.00	-8.51	35.00
2	10.59	32.00	-4.51	39.00
3	21.18	30.00	-2.08	41.00
4	31.76	28.00	0.75	43.00
5	42.35	26.00	3.96	45.00
6	52.94	26.00	5.50	45.00
7	63.53	24.00	9.33	47.00
8	74.12	24.00	11.38	47.00
9	84.71	25.00	12.58	46.00
10	95.29	27.00	12.86	44.00
11	105.88	31.00	11.14	40.00
12	116.47	39.00	5.34	32.00
13	127.06	43.00	3.39	28.00
14	137.65	46.00	2.21	25.00
15	148.24	55.00	-5.25	16.00
16	158.82	70.00	-19.04	1.00
17	169.41	71.00	-19.22	0.00
18	180.00	70.00	-17.80	1.00
19	190.59	71.00	-18.80	0.00
20	201.18	71.00	-19.22	0.00
21	211.76	53.00	-2.05	18.00
22	222.35	40.00	9.75	31.00
23	232.94	35.00	13.21	36.00
24	243.53	29.00	17.38	42.00
25	254.12	24.00	20.33	47.00
26	264.71	24.00	18.13	47.00
27	275.29	27.00	12.85	44.00
28	285.88	25.00	12.57	46.00
29	296.47	26.00	9.37	45.00
30	307.06	35.00	-1.68	36.00
31	317.65	52.00	-20.51	19.00
32	328.24	50.00	-20.05	21.00
33	338.82	46.00	-17.26	25.00
34	349.41	44.00	-16.08	27.00
1	360.00	36.00	-8.51	35.00

Section Parameters:

Runout = 47.00 mm

Eccentricity = 12.41 mm

Angle of Occurrence = 5.18°

Local Deformation:

Bludge In = 20.33 mm

Bludge Out = -20.51 mm

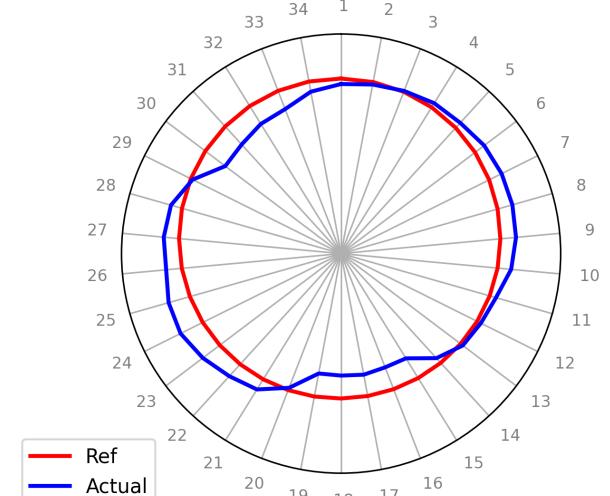
Temperature:

MIN Temp = 71.00°

MAX Temp = 71.00°

AVG Temp = 71.00°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 9

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	426.00	-6.57	32.00
2	10.59	425.00	-6.54	33.00
3	21.18	423.00	-5.14	35.00
4	31.76	418.00	-0.34	40.00
5	42.35	412.00	5.87	46.00
6	52.94	404.00	14.47	54.00
7	63.53	406.00	13.46	52.00
8	74.12	410.00	10.79	48.00
9	84.71	413.00	9.42	45.00
10	95.29	417.00	7.30	41.00
11	105.88	419.00	7.36	39.00
12	116.47	423.00	5.53	35.00
13	127.06	428.00	2.73	30.00
14	137.65	445.00	-12.10	13.00
15	148.24	452.00	-17.05	6.00
16	158.82	458.00	-21.17	0.00
17	169.41	456.00	-17.55	2.00
18	180.00	456.00	-16.22	2.00
19	190.59	450.00	-9.24	8.00
20	201.18	448.00	-6.64	10.00
21	211.76	434.00	7.57	24.00
22	222.35	422.00	19.36	36.00
23	232.94	412.00	28.76	46.00
24	243.53	420.00	19.78	38.00
25	254.12	424.00	14.45	34.00
26	264.71	429.00	7.82	29.00
27	275.29	434.00	0.94	24.00
28	285.88	436.00	-3.11	22.00
29	296.47	446.00	-15.28	12.00
30	307.06	440.00	-11.49	18.00
31	317.65	438.00	-11.65	20.00
32	328.24	426.00	-1.71	32.00
33	338.82	430.00	-7.58	28.00
34	349.41	427.00	-6.22	31.00
1	360.00	426.00	-6.55	32.00

Section Parameters:

Runout = 54.00 mm

Eccentricity = 11.95 mm

Angle of Occurrence = 31.65°

Local Deformation:

Bludge In = 28.76 mm

Bludge Out = -21.17 mm

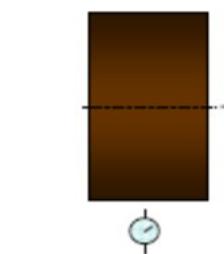
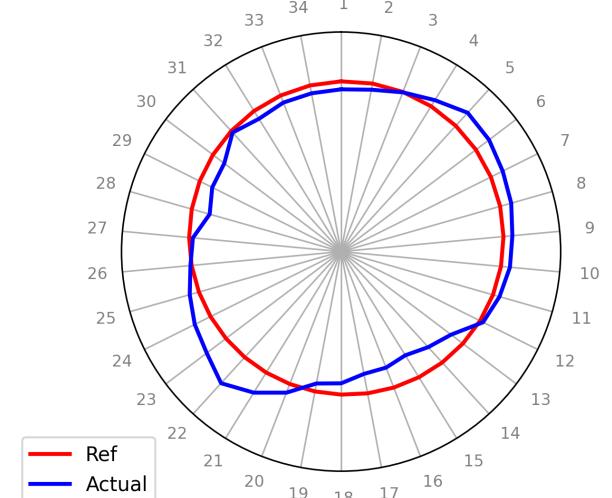
Temperature:

MIN Temp = 458.00°

MAX Temp = 426.00°

AVG Temp = 442.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 10

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	494.00	-16.71	16.00
2	10.59	505.00	-26.97	5.00
3	21.18	503.00	-24.19	7.00
4	31.76	505.00	-25.42	5.00
5	42.35	499.00	-18.67	11.00
6	52.94	480.00	1.03	30.00
7	63.53	467.00	14.66	43.00
8	74.12	455.00	27.20	55.00
9	84.71	443.00	39.62	67.00
10	95.29	445.00	37.91	65.00
11	105.88	458.00	25.07	52.00
12	116.47	468.00	15.08	42.00
13	127.06	478.00	4.95	32.00
14	137.65	486.00	-3.31	24.00
15	148.24	495.00	-12.71	15.00
16	158.82	510.00	-28.22	0.00
17	169.41	510.00	-28.83	0.00
18	180.00	509.00	-28.52	1.00
19	190.59	500.00	-20.26	10.00
20	201.18	495.00	-16.04	15.00
21	211.76	488.00	-9.81	22.00
22	222.35	483.00	-5.56	27.00
23	232.94	466.00	10.74	44.00
24	243.53	455.00	21.11	55.00
25	254.12	452.00	23.57	58.00
26	264.71	454.00	21.15	56.00
27	275.29	451.00	23.85	59.00
28	285.88	459.00	15.70	51.00
29	296.47	462.00	12.68	48.00
30	307.06	472.00	2.81	38.00
31	317.65	480.00	-4.93	30.00
32	328.24	478.00	-2.53	32.00
33	338.82	484.00	-8.02	26.00
34	349.41	493.00	-16.41	17.00
1	360.00	494.00	-16.72	16.00

Section Parameters:

Runout = 67.00 mm

Eccentricity = 4.21 mm

Angle of Occurrence = 292.35°

Local Deformation:

Bludge In = 39.62 mm

Bludge Out = -28.83 mm

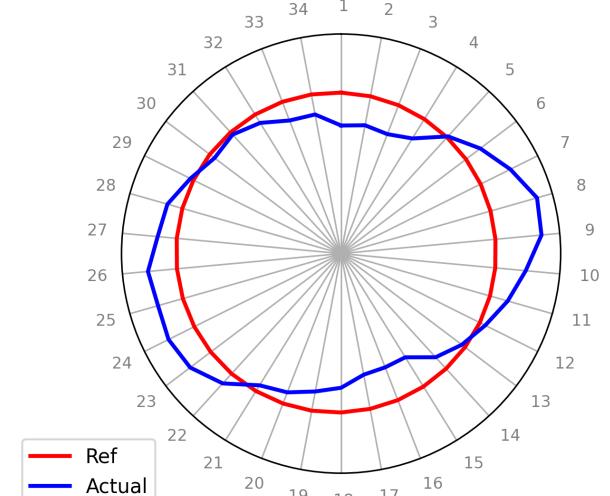
Temperature:

MIN Temp = 510.00°

MAX Temp = 478.00°

AVG Temp = 494.00°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 11

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	38.00	-7.89	20.00
2	10.59	34.00	-3.80	24.00
3	21.18	36.00	-5.61	22.00
4	31.76	40.00	-9.34	18.00
5	42.35	34.00	-2.98	24.00
6	52.94	29.00	2.45	29.00
7	63.53	24.00	7.93	34.00
8	74.12	20.00	12.45	38.00
9	84.71	7.00	25.99	51.00
10	95.29	27.00	6.54	31.00
11	105.88	30.00	4.06	28.00
12	116.47	26.00	8.56	32.00
13	127.06	17.00	18.00	41.00
14	137.65	26.00	9.37	32.00
15	148.24	48.00	-12.33	10.00
16	158.82	54.00	-18.12	4.00
17	169.41	55.00	-19.01	3.00
18	180.00	52.00	-16.00	6.00
19	190.59	58.00	-22.08	0.00
20	201.18	54.00	-18.27	4.00
21	211.76	45.00	-9.55	13.00
22	222.35	40.00	-4.90	18.00
23	232.94	23.00	11.67	35.00
24	243.53	11.00	23.19	47.00
25	254.12	6.00	27.67	52.00
26	264.71	6.00	27.13	52.00
27	275.29	10.00	22.58	48.00
28	285.88	30.00	2.06	28.00
29	296.47	43.00	-11.44	15.00
30	307.06	48.00	-16.88	10.00
31	317.65	7.00	23.74	51.00
32	328.24	55.00	-24.55	3.00
33	338.82	50.00	-19.76	8.00
34	349.41	41.00	-10.88	17.00
1	360.00	38.00	-7.89	20.00

Section Parameters:

Runout = 52.00 mm

Eccentricity = 2.95 mm

Angle of Occurrence = 356.11°

Local Deformation:

Bludge In = 27.67 mm

Bludge Out = -24.55 mm

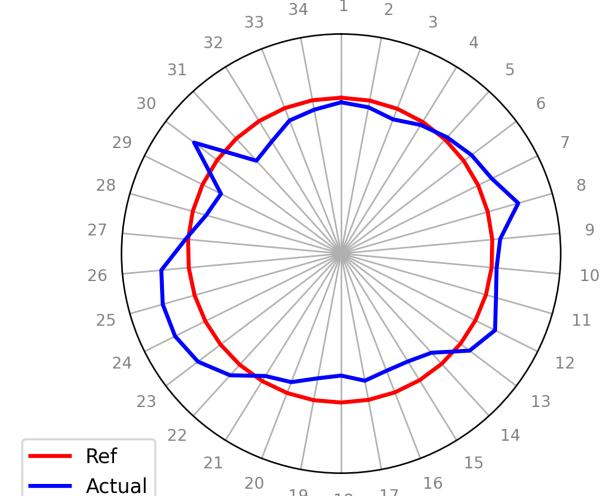
Temperature:

MIN Temp = 58.00°

MAX Temp = 41.00°

AVG Temp = 49.50°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 12

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	218.00	-4.65	23.00
2	10.59	216.00	-2.53	25.00
3	21.18	213.00	0.68	28.00
4	31.76	220.00	-6.02	21.00
5	42.35	209.00	5.36	32.00
6	52.94	209.00	5.80	32.00
7	63.53	207.00	8.28	34.00
8	74.12	209.00	6.80	32.00
9	84.71	205.00	11.33	36.00
10	95.29	209.00	7.86	32.00
11	105.88	203.00	14.36	38.00
12	116.47	209.00	8.83	32.00
13	127.06	200.00	18.24	41.00
14	137.65	212.00	6.58	29.00
15	148.24	239.00	-20.16	2.00
16	158.82	240.00	-20.99	1.00
17	169.41	238.00	-18.92	3.00
18	180.00	241.00	-21.94	0.00
19	190.59	238.00	-19.06	3.00
20	201.18	234.00	-15.27	7.00
21	211.76	230.00	-11.57	11.00
22	222.35	215.00	3.05	26.00
23	232.94	198.00	19.62	43.00
24	243.53	194.00	23.13	47.00
25	254.12	184.00	32.61	57.00
26	264.71	185.00	31.08	56.00
27	275.29	194.00	21.56	47.00
28	285.88	218.00	-2.95	23.00
29	296.47	222.00	-7.42	19.00
30	307.06	228.00	-13.83	13.00
31	317.65	232.00	-18.17	9.00
32	328.24	235.00	-21.43	6.00
33	338.82	227.00	-13.60	14.00
34	349.41	220.00	-6.67	21.00
1	360.00	218.00	-4.65	23.00

Section Parameters:

Runout = 57.00 mm

Eccentricity = 2.88 mm

Angle of Occurrence = 352.32°

Local Deformation:

Bludge In = 32.61 mm

Bludge Out = -21.94 mm

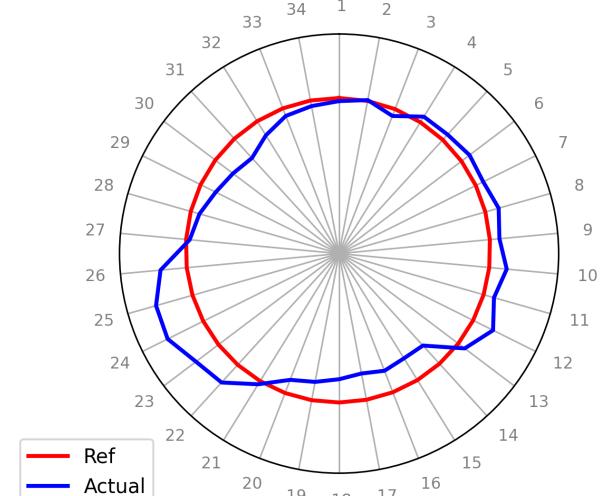
Temperature:

MIN Temp = 241.00°

MAX Temp = 220.00°

AVG Temp = 230.50°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 13

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	50.00	-2.47	10.00
2	10.59	49.00	-1.61	11.00
3	21.18	47.00	0.36	13.00
4	31.76	51.00	-3.54	9.00
5	42.35	48.00	-0.33	12.00
6	52.94	50.00	-2.02	10.00
7	63.53	52.00	-3.61	8.00
8	74.12	50.00	-1.12	10.00
9	84.71	48.00	1.44	12.00
10	95.29	45.00	5.04	15.00
11	105.88	43.00	7.67	17.00
12	116.47	46.00	5.30	14.00
13	127.06	48.00	3.91	12.00
14	137.65	51.00	1.49	9.00
15	148.24	54.00	-0.99	6.00
16	158.82	56.00	-2.55	4.00
17	169.41	60.00	-6.19	0.00
18	180.00	60.00	-5.94	0.00
19	190.59	58.00	-3.80	2.00
20	201.18	57.00	-2.78	3.00
21	211.76	58.00	-3.87	2.00
22	222.35	55.00	-1.08	5.00
23	232.94	51.00	2.61	9.00
24	243.53	48.00	5.20	12.00
25	254.12	44.00	8.71	16.00
26	264.71	46.00	6.15	14.00
27	275.29	54.00	-2.45	6.00
28	285.88	58.00	-7.08	2.00
29	296.47	56.00	-5.71	4.00
30	307.06	40.00	9.68	20.00
31	317.65	45.00	4.10	15.00
32	328.24	48.00	0.58	12.00
33	338.82	50.00	-1.87	10.00
34	349.41	51.00	-3.22	9.00
1	360.00	50.00	-2.47	10.00

Section Parameters:

Runout = 20.00 mm

Eccentricity = 3.43 mm

Angle of Occurrence = 17.95°

Local Deformation:

Bludge In = 9.68 mm

Bludge Out = -7.08 mm

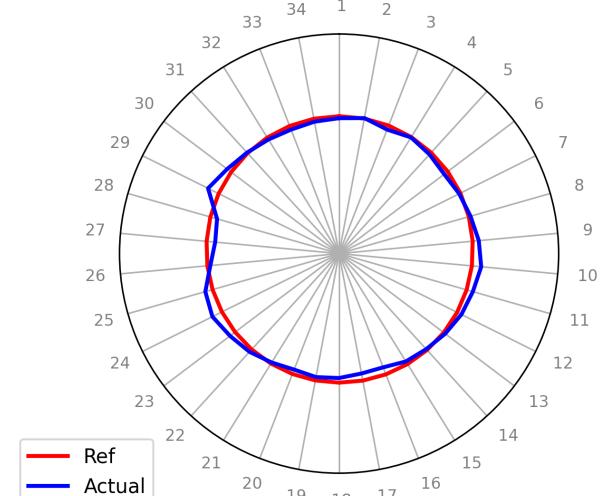
Temperature:

MIN Temp = 60.00°

MAX Temp = 48.00°

AVG Temp = 54.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 14

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	66.00	2.66	21.00
2	10.59	69.00	0.59	18.00
3	21.18	67.00	3.59	20.00
4	31.76	67.00	4.64	20.00
5	42.35	70.00	2.69	17.00
6	52.94	72.00	1.72	15.00
7	63.53	71.00	3.68	16.00
8	74.12	75.00	0.55	12.00
9	84.71	76.00	0.29	11.00
10	95.29	82.00	-5.12	5.00
11	105.88	87.00	-9.70	0.00
12	116.47	86.00	-8.47	1.00
13	127.06	87.00	-9.43	0.00
14	137.65	86.00	-8.58	1.00
15	148.24	76.00	1.07	11.00
16	158.82	70.00	6.55	17.00
17	169.41	67.00	8.87	20.00
18	180.00	65.00	10.05	22.00
19	190.59	65.00	9.12	22.00
20	201.18	68.00	5.12	19.00
21	211.76	66.00	6.07	21.00
22	222.35	71.00	0.02	16.00
23	232.94	75.00	-5.01	12.00
24	243.53	78.00	-8.97	9.00
25	254.12	72.00	-3.84	15.00
26	264.71	73.00	-5.58	14.00
27	275.29	71.00	-4.17	16.00
28	285.88	66.00	0.41	21.00
29	296.47	69.00	-2.83	18.00
30	307.06	67.00	-0.87	20.00
31	317.65	65.00	1.28	22.00
32	328.24	67.00	-0.38	20.00
33	338.82	65.00	2.14	22.00
34	349.41	66.00	1.83	21.00
1	360.00	66.00	2.64	21.00

Section Parameters:

Runout = 22.00 mm

Eccentricity = 5.73 mm

Angle of Occurrence = 304.03°

Local Deformation:

Bludge In = 10.05 mm

Bludge Out = -9.70 mm

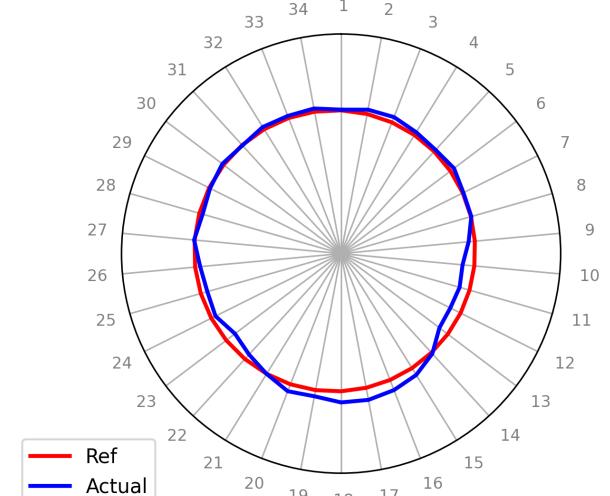
Temperature:

MIN Temp = 87.00°

MAX Temp = 65.00°

AVG Temp = 76.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 15

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	470.00	-21.11	24.00
2	10.59	458.00	-7.13	36.00
3	21.18	443.00	10.32	51.00
4	31.76	441.00	15.18	53.00
5	42.35	442.00	17.34	52.00
6	52.94	448.00	14.70	46.00
7	63.53	465.00	1.13	29.00
8	74.12	466.00	3.53	28.00
9	84.71	465.00	7.78	29.00
10	95.29	491.00	-15.23	3.00
11	105.88	492.00	-13.61	2.00
12	116.47	494.00	-13.44	0.00
13	127.06	494.00	-11.79	0.00
14	137.65	489.00	-5.73	5.00
15	148.24	466.00	17.71	28.00
16	158.82	468.00	15.52	26.00
17	169.41	470.00	12.70	24.00
18	180.00	473.00	8.28	21.00
19	190.59	478.00	1.31	16.00
20	201.18	483.00	-6.14	11.00
21	211.76	484.00	-10.00	10.00
22	222.35	484.00	-13.15	10.00
23	232.94	485.00	-17.51	9.00
24	243.53	469.00	-4.94	25.00
25	254.12	463.00	-2.35	31.00
26	264.71	453.00	4.40	41.00
27	275.29	440.00	14.41	54.00
28	285.88	436.00	15.79	58.00
29	296.47	433.00	16.61	61.00
30	307.06	432.00	15.96	62.00
31	317.65	446.00	0.90	48.00
32	328.24	456.00	-9.55	38.00
33	338.82	468.00	-21.36	26.00
34	349.41	468.00	-20.55	26.00
1	360.00	470.00	-21.14	24.00

Section Parameters:

Runout = 62.00 mm

Eccentricity = 18.64 mm

Angle of Occurrence = 330.42°

Local Deformation:

Bludge In = 17.71 mm

Bludge Out = -21.36 mm

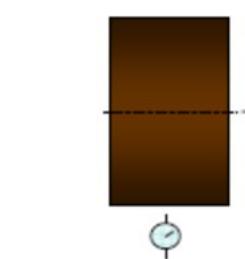
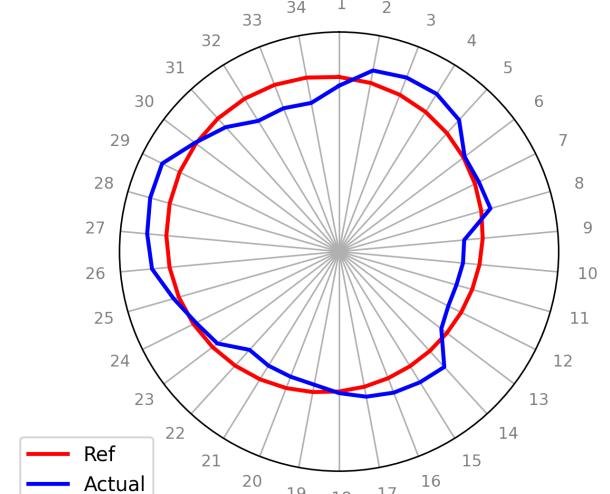
Temperature:

MIN Temp = 494.00°

MAX Temp = 456.00°

AVG Temp = 475.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 16

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	48.00	-0.57	27.00
2	10.59	46.00	1.65	29.00
3	21.18	52.00	-3.91	23.00
4	31.76	48.00	0.74	27.00
5	42.35	44.00	5.57	31.00
6	52.94	45.00	5.55	30.00
7	63.53	46.00	5.65	29.00
8	74.12	43.00	9.84	32.00
9	84.71	48.00	6.07	27.00
10	95.29	69.00	-13.71	6.00
11	105.88	70.00	-13.52	5.00
12	116.47	75.00	-17.41	0.00
13	127.06	75.00	-16.43	0.00
14	137.65	73.00	-13.59	2.00
15	148.24	63.00	-2.94	12.00
16	158.82	55.00	5.51	20.00
17	169.41	44.00	16.74	31.00
18	180.00	42.00	18.74	33.00
19	190.59	40.00	20.52	35.00
20	201.18	43.00	17.08	32.00
21	211.76	52.00	7.44	23.00
22	222.35	59.00	-0.39	16.00
23	232.94	64.00	-6.37	11.00
24	243.53	70.00	-13.47	5.00
25	254.12	71.00	-15.66	4.00
26	264.71	70.00	-15.89	5.00
27	275.29	65.00	-12.11	10.00
28	285.88	61.00	-9.30	14.00
29	296.47	45.00	5.59	30.00
30	307.06	42.00	7.60	33.00
31	317.65	40.00	8.77	35.00
32	328.24	42.00	6.12	33.00
33	338.82	43.00	4.66	32.00
34	349.41	46.00	1.43	29.00
1	360.00	48.00	-0.58	27.00

Section Parameters:

Runout = 35.00 mm

Eccentricity = 6.69 mm

Angle of Occurrence = 355.01°

Local Deformation:

Bludge In = 20.52 mm

Bludge Out = -17.41 mm

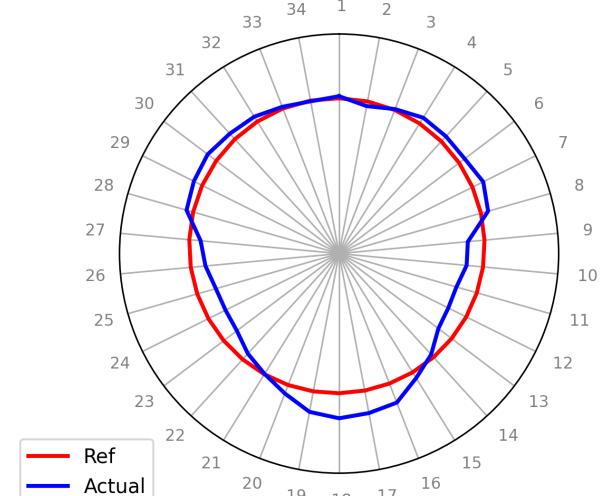
Temperature:

MIN Temp = 75.00°

MAX Temp = 42.00°

AVG Temp = 58.50°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 17

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	570.00	6.56	45.00
2	10.59	580.00	-0.77	35.00
3	21.18	590.00	-7.93	25.00
4	31.76	591.00	-6.02	24.00
5	42.35	588.00	-0.14	27.00
6	52.94	586.00	4.62	29.00
7	63.53	587.00	6.16	28.00
8	74.12	588.00	7.39	27.00
9	84.71	604.00	-6.76	11.00
10	95.29	612.00	-13.36	3.00
11	105.88	615.00	-15.44	0.00
12	116.47	613.00	-13.05	2.00
13	127.06	607.00	-7.20	8.00
14	137.65	600.00	-0.88	15.00
15	148.24	594.00	3.93	21.00
16	158.82	588.00	8.28	27.00
17	169.41	589.00	5.21	26.00
18	180.00	578.00	13.80	37.00
19	190.59	577.00	12.14	38.00
20	201.18	573.00	13.30	42.00
21	211.76	575.00	8.39	40.00
22	222.35	575.00	5.51	40.00
23	232.94	576.00	1.75	39.00
24	243.53	578.00	-2.79	37.00
25	254.12	593.00	-20.03	22.00
26	264.71	595.00	-23.88	20.00
27	275.29	595.00	-25.29	20.00
28	285.88	580.00	-11.21	35.00
29	296.47	567.00	1.40	48.00
30	307.06	557.00	11.54	58.00
31	317.65	560.00	9.21	55.00
32	328.24	567.00	3.40	48.00
33	338.82	554.00	18.05	61.00
34	349.41	560.00	14.11	55.00
1	360.00	570.00	6.52	45.00

Section Parameters:

Runout = 61.00 mm

Eccentricity = 15.79 mm

Angle of Occurrence = 298.97°

Local Deformation:

Bludge In = 18.05 mm

Bludge Out = -25.29 mm

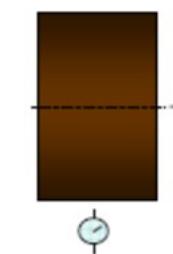
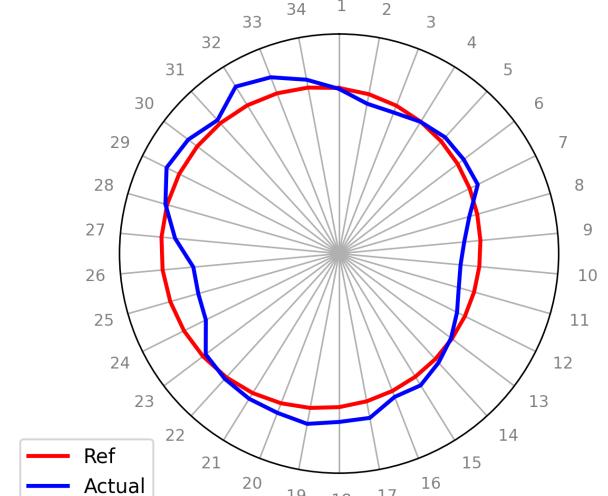
Temperature:

MIN Temp = 615.00°

MAX Temp = 554.00°

AVG Temp = 584.50°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 18

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	684.00	12.56	40.00
2	10.59	692.00	5.84	32.00
3	21.18	703.00	-3.57	21.00
4	31.76	713.00	-11.73	11.00
5	42.35	716.00	-12.71	8.00
6	52.94	714.00	-8.56	10.00
7	63.53	712.00	-4.36	12.00
8	74.12	708.00	1.80	16.00
9	84.71	708.00	3.87	16.00
10	95.29	713.00	0.76	11.00
11	105.88	716.00	-0.58	8.00
12	116.47	720.00	-3.22	4.00
13	127.06	721.00	-3.19	3.00
14	137.65	724.00	-5.54	0.00
15	148.24	724.00	-5.28	0.00
16	158.82	723.00	-4.43	1.00
17	169.41	713.00	5.02	11.00
18	180.00	704.00	13.09	20.00
19	190.59	704.00	11.81	20.00
20	201.18	702.00	12.22	22.00
21	211.76	701.00	11.39	23.00
22	222.35	704.00	6.36	20.00
23	232.94	702.00	6.21	22.00
24	243.53	722.00	-15.98	2.00
25	254.12	723.00	-19.15	1.00
26	264.71	716.00	-14.21	8.00
27	275.29	717.00	-17.11	7.00
28	285.88	713.00	-14.77	11.00
29	296.47	697.00	-0.14	27.00
30	307.06	689.00	6.84	35.00
31	317.65	686.00	9.18	38.00
32	328.24	689.00	5.92	35.00
33	338.82	680.00	15.07	44.00
34	349.41	679.00	16.61	45.00
1	360.00	684.00	12.54	40.00

Section Parameters:

Runout = 45.00 mm

Eccentricity = 11.90 mm

Angle of Occurrence = 329.73°

Local Deformation:

Bludge In = 16.61 mm

Bludge Out = -19.15 mm

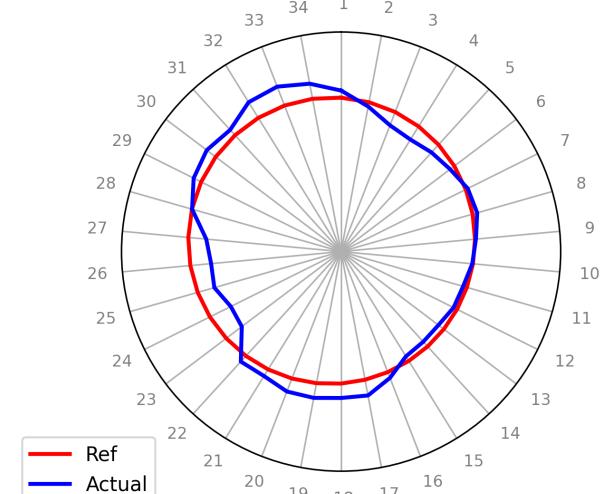
Temperature:

MIN Temp = 724.00°

MAX Temp = 679.00°

AVG Temp = 701.50°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 19

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	2.00	8.19	39.00
2	10.59	4.00	7.32	37.00
3	21.18	6.00	6.84	35.00
4	31.76	8.00	6.68	33.00
5	42.35	23.00	-6.20	18.00
6	52.94	26.00	-6.88	15.00
7	63.53	26.00	-4.45	15.00
8	74.12	29.00	-4.97	12.00
9	84.71	29.00	-2.55	12.00
10	95.29	31.00	-2.25	10.00
11	105.88	34.00	-3.16	7.00
12	116.47	36.00	-3.35	5.00
13	127.06	40.00	-5.88	1.00
14	137.65	41.00	-5.80	0.00
15	148.24	39.00	-3.15	2.00
16	158.82	34.00	2.05	7.00
17	169.41	20.00	15.80	21.00
18	180.00	21.00	14.09	20.00
19	190.59	26.00	7.97	15.00
20	201.18	27.00	5.46	14.00
21	211.76	30.00	0.62	11.00
22	222.35	29.00	-0.50	12.00
23	232.94	30.00	-3.82	11.00
24	243.53	31.00	-7.25	10.00
25	254.12	28.00	-6.72	13.00
26	264.71	24.00	-5.15	17.00
27	275.29	24.00	-7.45	17.00
28	285.88	21.00	-6.54	20.00
29	296.47	16.00	-3.35	25.00
30	307.06	11.00	0.18	30.00
31	317.65	9.00	1.09	32.00
32	328.24	6.00	3.44	35.00
33	338.82	5.00	4.23	36.00
34	349.41	4.00	5.48	37.00
1	360.00	2.00	8.18	39.00

Section Parameters:

Runout = 39.00 mm

Eccentricity = 13.41 mm

Angle of Occurrence = 338.32°

Local Deformation:

Bludge In = 15.80 mm

Bludge Out = -7.45 mm

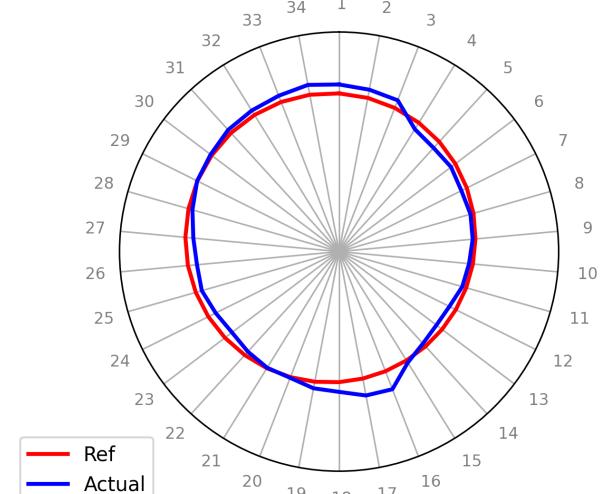
Temperature:

MIN Temp = 41.00°

MAX Temp = 4.00°

AVG Temp = 22.50°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 20

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	45.00	5.18	25.00
2	10.59	45.00	6.03	25.00
3	21.18	43.00	9.09	27.00
4	31.76	46.00	7.33	24.00
5	42.35	52.00	2.71	18.00
6	52.94	58.00	-1.83	12.00
7	63.53	60.00	-2.33	10.00
8	74.12	65.00	-5.84	5.00
9	84.71	69.00	-8.41	1.00
10	95.29	69.00	-7.10	1.00
11	105.88	70.00	-6.95	0.00
12	116.47	68.00	-3.99	2.00
13	127.06	70.00	-5.26	0.00
14	137.65	65.00	0.22	5.00
15	148.24	58.00	7.43	12.00
16	158.82	61.00	4.36	9.00
17	169.41	58.00	7.02	12.00
18	180.00	58.00	6.41	12.00
19	190.59	59.00	4.56	11.00
20	201.18	59.00	3.50	11.00
21	211.76	59.00	2.26	11.00
22	222.35	61.00	-1.12	9.00
23	232.94	58.00	0.42	12.00
24	243.53	61.00	-4.08	9.00
25	254.12	60.00	-4.57	10.00
26	264.71	58.00	-3.99	12.00
27	275.29	57.00	-4.31	13.00
28	285.88	56.00	-4.46	14.00
29	296.47	55.00	-4.43	15.00
30	307.06	51.00	-1.16	19.00
31	317.65	50.00	-0.64	20.00
32	328.24	50.00	-0.85	20.00
33	338.82	48.00	1.22	22.00
34	349.41	46.00	3.56	24.00
1	360.00	45.00	5.17	25.00

Section Parameters:

Runout = 27.00 mm

Eccentricity = 8.15 mm

Angle of Occurrence = 330.97°

Local Deformation:

Bludge In = 9.09 mm

Bludge Out = -8.41 mm

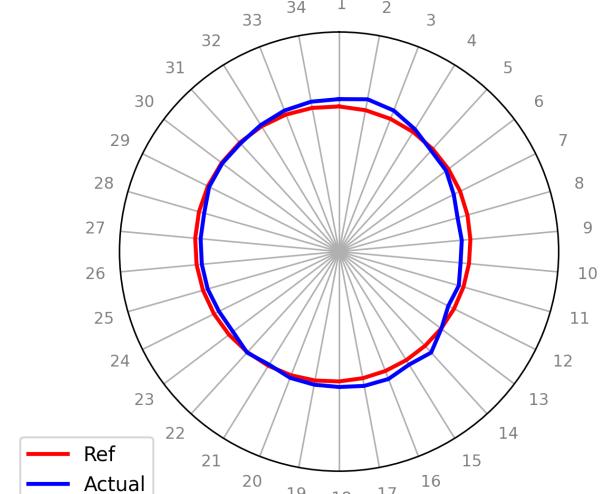
Temperature:

MIN Temp = 168.00°

MAX Temp = 163.00°

AVG Temp = 165.30°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 21

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	900.00	5.15	23.00
2	10.59	897.00	9.43	26.00
3	21.18	898.00	9.81	25.00
4	31.76	899.00	10.25	24.00
5	42.35	907.00	3.69	16.00
6	52.94	917.00	-4.91	6.00
7	63.53	920.00	-6.60	3.00
8	74.12	922.00	-7.42	1.00
9	84.71	923.00	-7.42	0.00
10	95.29	922.00	-5.63	1.00
11	105.88	920.00	-3.08	3.00
12	116.47	911.00	6.23	12.00
13	127.06	920.00	-2.74	3.00
14	137.65	917.00	0.03	6.00
15	148.24	915.00	1.54	8.00
16	158.82	913.00	2.81	10.00
17	169.41	912.00	2.87	11.00
18	180.00	909.00	4.74	14.00
19	190.59	911.00	1.46	12.00
20	201.18	909.00	2.08	14.00
21	211.76	911.00	-1.36	12.00
22	222.35	908.00	0.20	15.00
23	232.94	907.00	-0.20	16.00
24	243.53	907.00	-1.51	16.00
25	254.12	905.00	-0.69	18.00
26	264.71	901.00	2.31	22.00
27	275.29	907.00	-4.49	16.00
28	285.88	903.00	-1.04	20.00
29	296.47	901.00	0.65	22.00
30	307.06	905.00	-3.38	18.00
31	317.65	907.00	-5.16	16.00
32	328.24	907.00	-4.67	16.00
33	338.82	907.00	-3.94	16.00
34	349.41	903.00	1.00	20.00
1	360.00	900.00	5.13	23.00

Section Parameters:

Runout = 26.00 mm

Eccentricity = 7.84 mm

Angle of Occurrence = 303.29°

Local Deformation:

Bludge In = 10.25 mm

Bludge Out = -7.42 mm

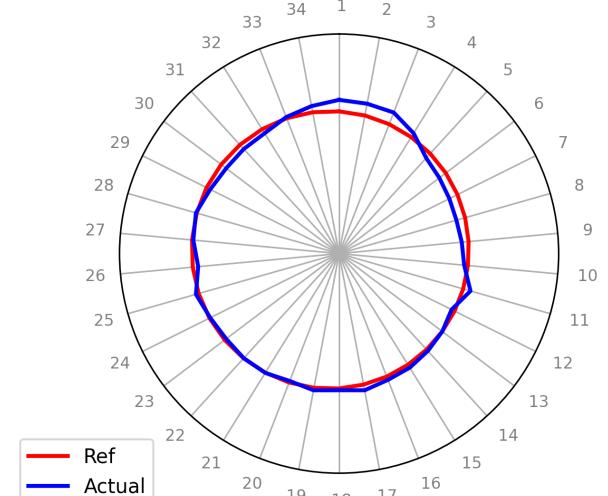
Temperature:

MIN Temp = 163.00°

MAX Temp = 160.00°

AVG Temp = 161.20°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 22

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	878.00	3.17	23.00
2	10.59	880.00	2.01	21.00
3	21.18	875.00	8.05	26.00
4	31.76	876.00	8.23	25.00
5	42.35	876.00	9.52	25.00
6	52.94	878.00	8.88	23.00
7	63.53	888.00	0.25	13.00
8	74.12	892.00	-2.39	9.00
9	84.71	898.00	-7.12	3.00
10	95.29	900.00	-7.95	1.00
11	105.88	901.00	-7.95	0.00
12	116.47	900.00	-6.13	1.00
13	127.06	901.00	-6.53	0.00
14	137.65	896.00	-1.17	5.00
15	148.24	892.00	2.94	9.00
16	158.82	891.00	3.79	10.00
17	169.41	890.00	4.40	11.00
18	180.00	889.00	4.77	12.00
19	190.59	890.00	2.93	11.00
20	201.18	891.00	0.90	10.00
21	211.76	889.00	1.72	12.00
22	222.35	888.00	1.43	13.00
23	232.94	886.00	2.07	15.00
24	243.53	885.00	1.69	16.00
25	254.12	886.00	-0.66	15.00
26	264.71	886.00	-1.94	15.00
27	275.29	886.00	-3.10	15.00
28	285.88	884.00	-2.11	17.00
29	296.47	879.00	2.07	22.00
30	307.06	882.00	-1.53	19.00
31	317.65	888.00	-7.89	13.00
32	328.24	886.00	-6.00	15.00
33	338.82	885.00	-4.86	16.00
34	349.41	882.00	-1.47	19.00
1	360.00	878.00	3.16	23.00

Section Parameters:

Runout = 26.00 mm

Eccentricity = 7.47 mm

Angle of Occurrence = 327.61°

Local Deformation:

Bludge In = 9.52 mm

Bludge Out = -7.95 mm

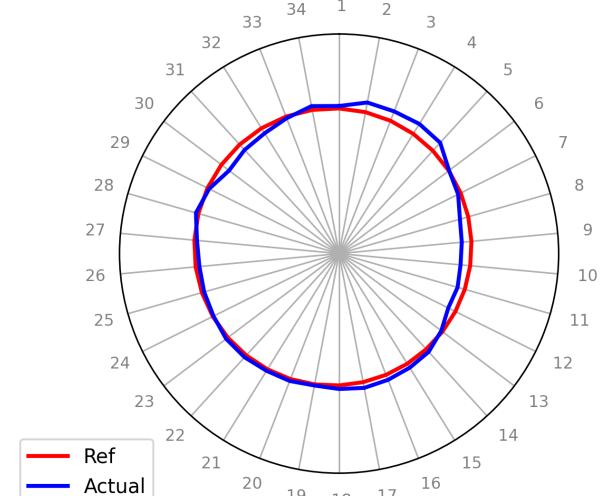
Temperature:

MIN Temp = 168.00°

MAX Temp = 163.00°

AVG Temp = 165.30°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 23

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	56.00	-1.58	2.00
2	10.59	56.00	-1.47	2.00
3	21.18	55.00	-0.38	3.00
4	31.76	55.00	-0.33	3.00
5	42.35	55.00	-0.31	3.00
6	52.94	51.00	3.68	7.00
7	63.53	54.00	0.63	4.00
8	74.12	56.00	-1.45	2.00
9	84.71	57.00	-2.55	1.00
10	95.29	58.00	-3.69	0.00
11	105.88	58.00	-3.84	0.00
12	116.47	54.00	-0.01	4.00
13	127.06	53.00	0.82	5.00
14	137.65	50.00	3.63	8.00
15	148.24	49.00	4.46	9.00
16	158.82	51.00	2.29	7.00
17	169.41	55.00	-1.87	3.00
18	180.00	57.00	-4.01	1.00
19	190.59	52.00	0.88	6.00
20	201.18	49.00	3.80	9.00
21	211.76	52.00	0.74	6.00
22	222.35	52.00	0.72	6.00
23	232.94	54.00	-1.26	4.00
24	243.53	53.00	-0.22	5.00
25	254.12	53.00	-0.14	5.00
26	264.71	54.00	-1.03	4.00
27	275.29	58.00	-4.90	0.00
28	285.88	58.00	-4.75	0.00
29	296.47	56.00	-2.58	2.00
30	307.06	51.00	2.59	7.00
31	317.65	49.00	4.78	9.00
32	328.24	49.00	4.96	9.00
33	338.82	50.00	4.13	8.00
34	349.41	56.00	-1.72	2.00
1	360.00	56.00	-1.58	2.00

Section Parameters:

Runout = 9.00 mm

Eccentricity = 0.98 mm

Angle of Occurrence = 223.51°

Local Deformation:

Bludge In = 4.96 mm

Bludge Out = -4.90 mm

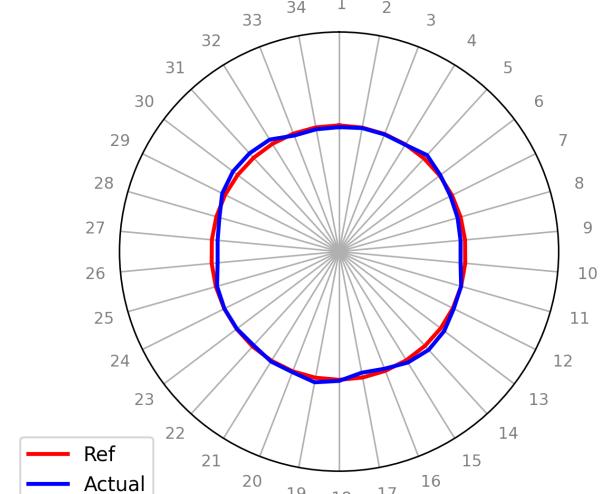
Temperature:

MIN Temp = 178.00°

MAX Temp = 151.00°

AVG Temp = 164.60°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 24

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	46.00	0.62	6.00
2	10.59	46.00	0.21	6.00
3	21.18	48.00	-2.15	4.00
4	31.76	45.00	0.56	7.00
5	42.35	45.00	0.35	7.00
6	52.94	46.00	-0.78	6.00
7	63.53	47.00	-1.82	5.00
8	74.12	45.00	0.23	7.00
9	84.71	45.00	0.37	7.00
10	95.29	44.00	1.59	8.00
11	105.88	45.00	0.88	7.00
12	116.47	46.00	0.25	6.00
13	127.06	46.00	0.66	6.00
14	137.65	48.00	-0.88	4.00
15	148.24	46.00	1.60	6.00
16	158.82	48.00	0.09	4.00
17	169.41	52.00	-3.43	0.00
18	180.00	49.00	0.02	3.00
19	190.59	48.00	1.43	4.00
20	201.18	51.00	-1.21	1.00
21	211.76	51.00	-0.92	1.00
22	222.35	51.00	-0.70	1.00
23	232.94	50.00	0.43	2.00
24	243.53	49.00	1.47	3.00
25	254.12	49.00	1.42	3.00
26	264.71	50.00	0.28	2.00
27	275.29	50.00	0.06	2.00
28	285.88	50.00	-0.24	2.00
29	296.47	51.00	-1.60	1.00
30	307.06	49.00	-0.01	3.00
31	317.65	48.00	0.53	4.00
32	328.24	49.00	-0.95	3.00
33	338.82	46.00	1.56	6.00
34	349.41	47.00	0.08	5.00
1	360.00	46.00	0.63	6.00

Section Parameters:

Runout = 8.00 mm

Eccentricity = 2.64 mm

Angle of Occurrence = 63.02°

Local Deformation:

Bludge In = 1.60 mm

Bludge Out = -3.43 mm

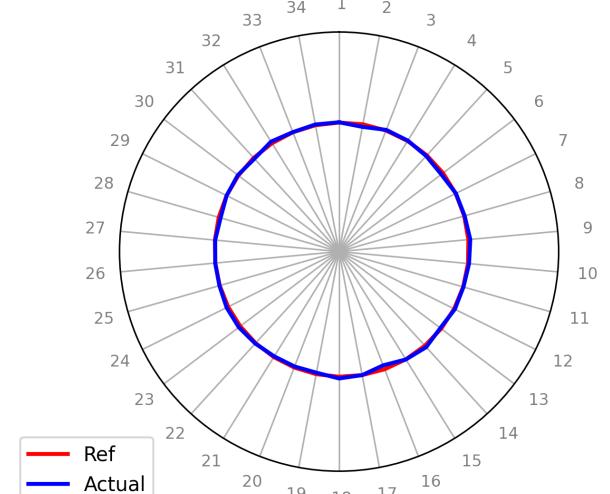
Temperature:

MIN Temp = 177.00°

MAX Temp = 172.00°

AVG Temp = 174.50°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 25

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	98.00	-2.32	1.00
2	10.59	94.00	1.49	5.00
3	21.18	94.00	1.24	5.00
4	31.76	93.00	1.96	6.00
5	42.35	92.00	2.64	7.00
6	52.94	95.00	-0.69	4.00
7	63.53	97.00	-3.04	2.00
8	74.12	99.00	-5.38	0.00
9	84.71	98.00	-4.71	1.00
10	95.29	94.00	-1.02	5.00
11	105.88	87.00	5.71	12.00
12	116.47	85.00	7.49	14.00
13	127.06	84.00	8.32	15.00
14	137.65	89.00	3.20	10.00
15	148.24	90.00	2.15	9.00
16	158.82	97.00	-4.83	2.00
17	169.41	99.00	-6.76	0.00
18	180.00	98.00	-5.62	1.00
19	190.59	98.00	-5.43	1.00
20	201.18	97.00	-4.19	2.00
21	211.76	91.00	2.10	8.00
22	222.35	90.00	3.41	9.00
23	232.94	92.00	1.75	7.00
24	243.53	92.00	2.10	7.00
25	254.12	93.00	1.44	6.00
26	264.71	95.00	-0.23	4.00
27	275.29	91.00	4.08	8.00
28	285.88	93.00	2.35	6.00
29	296.47	93.00	2.57	6.00
30	307.06	99.00	-3.26	0.00
31	317.65	98.00	-2.14	1.00
32	328.24	97.00	-1.09	2.00
33	338.82	97.00	-1.10	2.00
34	349.41	98.00	-2.18	1.00
1	360.00	98.00	-2.32	1.00

Section Parameters:

Runout = 15.00 mm

Eccentricity = 1.88 mm

Angle of Occurrence = 151.43°

Local Deformation:

Bludge In = 8.32 mm

Bludge Out = -6.76 mm

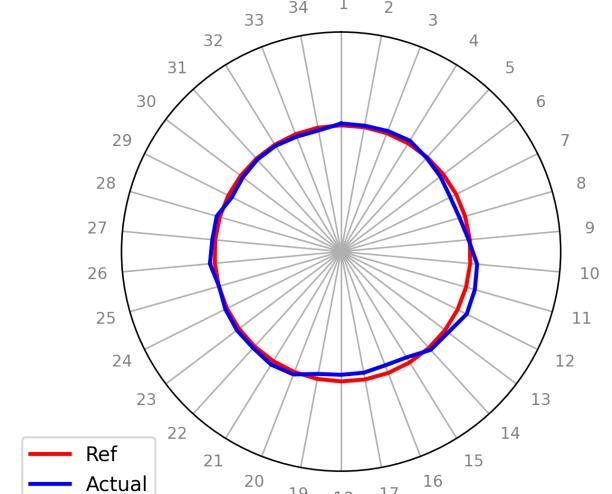
Temperature:

MIN Temp = 117.00°

MAX Temp = 103.00°

AVG Temp = 109.90°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 26

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	806.00	-0.34	9.00
2	10.59	806.00	-0.02	9.00
3	21.18	806.00	0.40	9.00
4	31.76	812.00	-5.10	3.00
5	42.35	815.00	-7.52	0.00
6	52.94	814.00	-5.90	1.00
7	63.53	815.00	-6.25	0.00
8	74.12	812.00	-2.59	3.00
9	84.71	809.00	1.04	6.00
10	95.29	810.00	0.64	5.00
11	105.88	810.00	1.19	5.00
12	116.47	807.00	4.65	8.00
13	127.06	811.00	1.02	4.00
14	137.65	809.00	3.28	6.00
15	148.24	804.00	8.43	11.00
16	158.82	807.00	5.46	8.00
17	169.41	808.00	4.37	7.00
18	180.00	813.00	-0.84	2.00
19	190.59	815.00	-3.16	0.00
20	201.18	815.00	-3.57	0.00
21	211.76	815.00	-4.08	0.00
22	222.35	814.00	-3.65	1.00
23	232.94	814.00	-4.27	1.00
24	243.53	813.00	-3.92	2.00
25	254.12	812.00	-3.58	3.00
26	264.71	809.00	-1.22	6.00
27	275.29	808.00	-0.82	7.00
28	285.88	805.00	1.64	10.00
29	296.47	806.00	0.18	9.00
30	307.06	802.00	3.80	13.00
31	317.65	800.00	5.54	15.00
32	328.24	796.00	9.39	19.00
33	338.82	800.00	5.36	15.00
34	349.41	805.00	0.45	10.00
1	360.00	806.00	-0.35	9.00

Section Parameters:

Runout = 19.00 mm

Eccentricity = 3.56 mm

Angle of Occurrence = 336.25°

Local Deformation:

Bludge In = 9.39 mm

Bludge Out = -7.52 mm

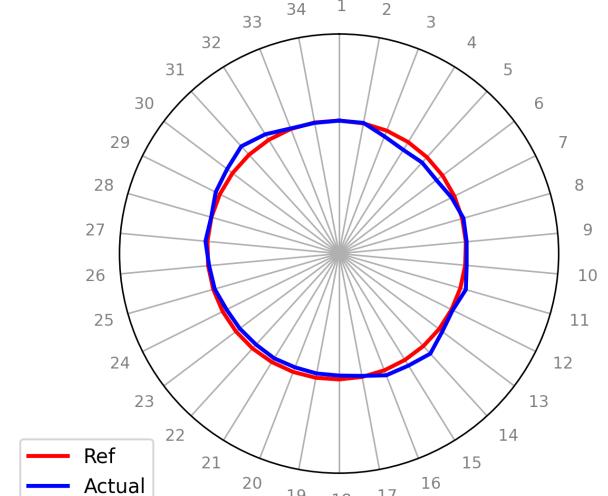
Temperature:

MIN Temp = 89.00°

MAX Temp = 71.00°

AVG Temp = 79.90°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 27

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	57.00	0.76	13.00
2	10.59	58.00	0.37	12.00
3	21.18	57.00	1.93	13.00
4	31.76	61.00	-1.60	9.00
5	42.35	63.00	-3.22	7.00
6	52.94	69.00	-8.96	1.00
7	63.53	70.00	-9.81	0.00
8	74.12	61.00	-0.79	9.00
9	84.71	56.00	4.11	14.00
10	95.29	59.00	0.89	11.00
11	105.88	59.00	0.56	11.00
12	116.47	54.00	5.12	16.00
13	127.06	52.00	6.60	18.00
14	137.65	51.00	7.01	19.00
15	148.24	56.00	1.36	14.00
16	158.82	53.00	3.70	17.00
17	169.41	55.00	1.02	15.00
18	180.00	58.00	-2.63	12.00
19	190.59	60.00	-5.25	10.00
20	201.18	59.00	-4.80	11.00
21	211.76	57.00	-3.28	13.00
22	222.35	53.00	0.35	17.00
23	232.94	53.00	0.08	17.00
24	243.53	61.00	-8.07	9.00
25	254.12	60.00	-7.10	10.00
26	264.71	56.00	-3.00	14.00
27	275.29	48.00	5.22	22.00
28	285.88	48.00	5.56	22.00
29	296.47	47.00	6.99	23.00
30	307.06	42.00	12.51	28.00
31	317.65	55.00	0.11	15.00
32	328.24	59.00	-3.25	11.00
33	338.82	57.00	-0.58	13.00
34	349.41	59.00	-1.91	11.00
1	360.00	57.00	0.75	13.00

Section Parameters:

Runout = 28.00 mm

Eccentricity = 3.66 mm

Angle of Occurrence = 251.00°

Local Deformation:

Bludge In = 12.51 mm

Bludge Out = -9.81 mm

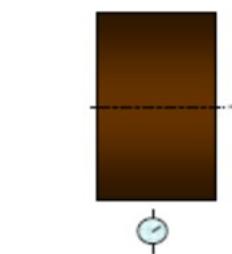
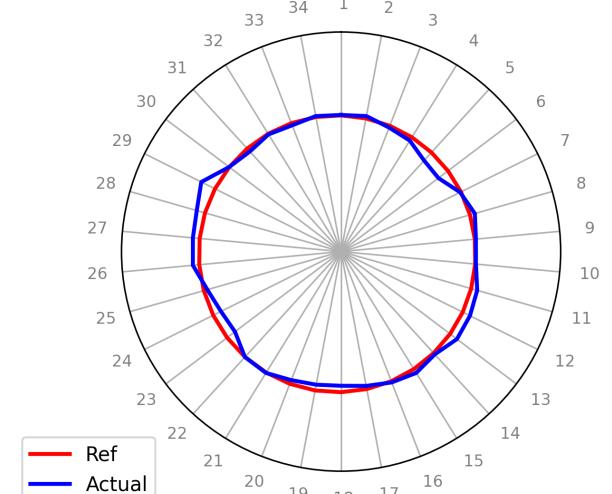
Temperature:

MIN Temp = 89.00°

MAX Temp = 71.00°

AVG Temp = 80.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 28

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	56.00	1.50	16.00
2	10.59	60.00	-0.62	12.00
3	21.18	63.00	-1.95	9.00
4	31.76	66.00	-3.53	6.00
5	42.35	68.00	-4.41	4.00
6	52.94	70.00	-5.63	2.00
7	63.53	72.00	-7.23	0.00
8	74.12	69.00	-4.20	3.00
9	84.71	68.00	-3.56	4.00
10	95.29	65.00	-1.29	7.00
11	105.88	54.00	8.63	18.00
12	116.47	53.00	8.25	19.00
13	127.06	51.00	8.60	21.00
14	137.65	59.00	-1.26	13.00
15	148.24	51.00	4.74	21.00
16	158.82	54.00	-0.33	18.00
17	169.41	55.00	-3.41	17.00
18	180.00	51.00	-1.42	21.00
19	190.59	46.00	1.70	26.00
20	201.18	47.00	-0.98	25.00
21	211.76	47.00	-2.40	25.00
22	222.35	46.00	-2.52	26.00
23	232.94	44.00	-1.30	28.00
24	243.53	45.00	-2.71	27.00
25	254.12	47.00	-4.74	25.00
26	264.71	44.00	-1.38	28.00
27	275.29	45.00	-1.65	27.00
28	285.88	45.00	-0.58	27.00
29	296.47	44.00	1.80	28.00
30	307.06	45.00	2.45	27.00
31	317.65	44.00	5.30	28.00
32	328.24	45.00	6.30	27.00
33	338.82	49.00	4.37	23.00
34	349.41	52.00	3.45	20.00
1	360.00	56.00	1.47	16.00

Section Parameters:

Runout = 28.00 mm

Eccentricity = 11.30 mm

Angle of Occurrence = 249.58°

Local Deformation:

Bludge In = 8.63 mm

Bludge Out = -7.23 mm

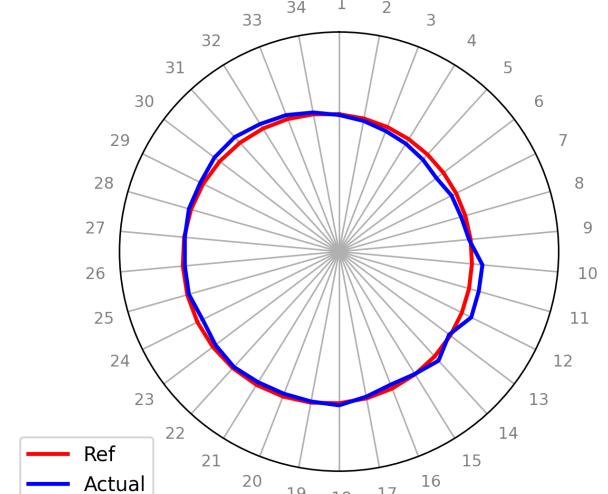
Temperature:

MIN Temp = 123.00°

MAX Temp = 112.00°

AVG Temp = 117.50°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 29

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	510.00	-9.80	0.00
2	10.59	508.00	-6.58	2.00
3	21.18	504.00	-1.67	6.00
4	31.76	501.00	1.91	9.00
5	42.35	502.00	1.13	8.00
6	52.94	503.00	-0.01	7.00
7	63.53	501.00	1.49	9.00
8	74.12	498.00	3.65	12.00
9	84.71	495.00	5.50	15.00
10	95.29	495.00	4.08	15.00
11	105.88	493.00	4.43	17.00
12	116.47	490.00	5.61	20.00
13	127.06	495.00	-1.31	15.00
14	137.65	490.00	1.72	20.00
15	148.24	492.00	-2.22	18.00
16	158.82	489.00	-1.07	21.00
17	169.41	491.00	-4.76	19.00
18	180.00	493.00	-8.24	17.00
19	190.59	490.00	-6.46	20.00
20	201.18	484.00	-1.38	26.00
21	211.76	483.00	-0.96	27.00
22	222.35	482.00	-0.18	28.00
23	232.94	481.00	0.95	29.00
24	243.53	483.00	-0.55	27.00
25	254.12	482.00	1.29	28.00
26	264.71	480.00	4.43	30.00
27	275.29	481.00	4.86	29.00
28	285.88	483.00	4.50	27.00
29	296.47	483.00	6.32	27.00
30	307.06	486.00	5.24	24.00
31	317.65	491.00	2.21	19.00
32	328.24	490.00	5.15	20.00
33	338.82	506.00	-9.00	4.00
34	349.41	509.00	-10.30	1.00
1	360.00	510.00	-9.82	0.00

Section Parameters:

Runout = 30.00 mm

Eccentricity = 10.66 mm

Angle of Occurrence = 223.64°

Local Deformation:

Bludge In = 6.32 mm

Bludge Out = -10.30 mm

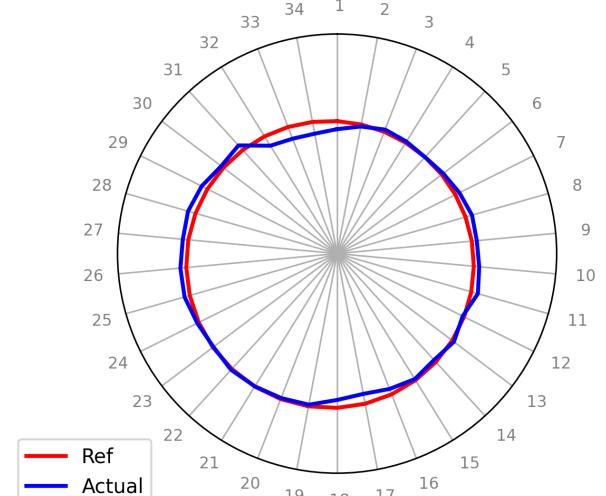
Temperature:

MIN Temp = 127.00°

MAX Temp = 123.00°

AVG Temp = 125.20°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 30

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	52.00	-5.17	6.00
2	10.59	54.00	-6.36	4.00
3	21.18	58.00	-9.83	0.00
4	31.76	56.00	-7.58	2.00
5	42.35	51.00	-2.63	7.00
6	52.94	45.00	3.03	13.00
7	63.53	44.00	3.41	14.00
8	74.12	42.00	4.53	16.00
9	84.71	42.00	3.41	16.00
10	95.29	40.00	4.11	18.00
11	105.88	37.00	5.65	21.00
12	116.47	33.00	8.10	25.00
13	127.06	34.00	5.50	24.00
14	137.65	38.00	-0.10	20.00
15	148.24	40.00	-3.63	18.00
16	158.82	44.00	-9.04	14.00
17	169.41	41.00	-7.30	17.00
18	180.00	38.00	-5.35	20.00
19	190.59	35.00	-3.15	23.00
20	201.18	30.00	1.31	28.00
21	211.76	30.00	1.06	28.00
22	222.35	31.00	0.10	27.00
23	232.94	31.00	0.44	27.00
24	243.53	32.00	0.06	26.00
25	254.12	32.00	0.94	26.00
26	264.71	32.00	2.05	26.00
27	275.29	36.00	-0.64	22.00
28	285.88	35.00	1.81	23.00
29	296.47	32.00	6.37	26.00
30	307.06	36.00	3.97	22.00
31	317.65	38.00	3.56	20.00
32	328.24	40.00	3.09	18.00
33	338.82	44.00	0.51	14.00
34	349.41	48.00	-2.24	10.00
1	360.00	52.00	-5.19	6.00

Section Parameters:

Runout = 28.00 mm

Eccentricity = 8.70 mm

Angle of Occurrence = 215.50°

Local Deformation:

Bludge In = 8.10 mm

Bludge Out = -9.83 mm

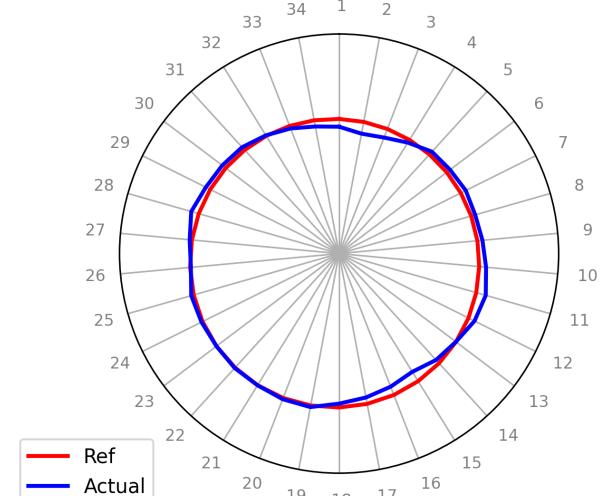
Temperature:

MIN Temp = 128.00°

MAX Temp = 120.00°

AVG Temp = 123.70°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 31

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	19.00	-2.51	0.00
2	10.59	19.00	-2.41	0.00
3	21.18	19.00	-2.33	0.00
4	31.76	16.00	0.73	3.00
5	42.35	17.00	-0.25	2.00
6	52.94	17.00	-0.26	2.00
7	63.53	18.00	-1.29	1.00
8	74.12	16.00	0.64	3.00
9	84.71	14.00	2.55	5.00
10	95.29	15.00	1.43	4.00
11	105.88	14.00	2.30	5.00
12	116.47	13.00	3.14	6.00
13	127.06	14.00	1.98	5.00
14	137.65	17.00	-1.18	2.00
15	148.24	18.00	-2.35	1.00
16	158.82	18.00	-2.50	1.00
17	169.41	17.00	-1.65	2.00
18	180.00	15.00	0.22	4.00
19	190.59	17.00	-1.89	2.00
20	201.18	16.00	-0.97	3.00
21	211.76	14.00	0.98	5.00
22	222.35	14.00	0.96	5.00
23	232.94	14.00	0.96	5.00
24	243.53	16.00	-1.00	3.00
25	254.12	19.00	-3.94	0.00
26	264.71	12.00	3.16	7.00
27	275.29	13.00	2.27	6.00
28	285.88	16.00	-0.59	3.00
29	296.47	15.00	0.56	4.00
30	307.06	14.00	1.72	5.00
31	317.65	14.00	1.89	5.00
32	328.24	12.00	4.05	7.00
33	338.82	18.00	-1.79	1.00
34	349.41	19.00	-2.64	0.00
1	360.00	19.00	-2.52	0.00

Section Parameters:

Runout = 7.00 mm

Eccentricity = 0.90 mm

Angle of Occurrence = 225.40°

Local Deformation:

Bludge In = 4.05 mm

Bludge Out = -3.94 mm

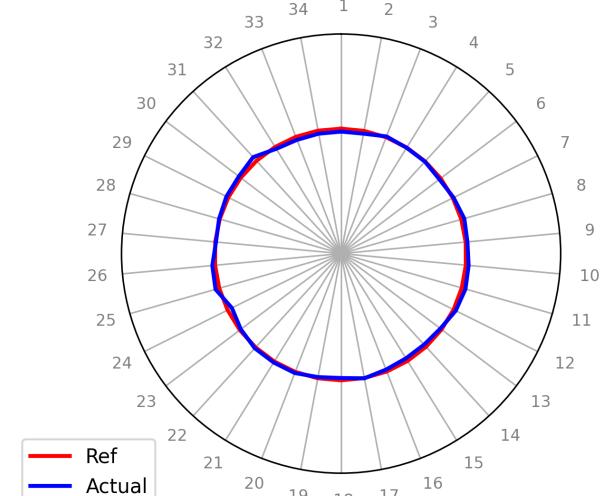
Temperature:

MIN Temp = 130.00°

MAX Temp = 122.00°

AVG Temp = 126.10°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

MeasuredPosition: 32

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	75.00	3.81	7.00
2	10.59	77.00	1.91	5.00
3	21.18	79.00	-0.06	3.00
4	31.76	82.00	-3.12	0.00
5	42.35	82.00	-3.24	0.00
6	52.94	81.00	-2.45	1.00
7	63.53	79.00	-0.71	3.00
8	74.12	79.00	-1.03	3.00
9	84.71	81.00	-3.40	1.00
10	95.29	79.00	-1.80	3.00
11	105.88	75.00	1.78	7.00
12	116.47	73.00	3.36	9.00
13	127.06	73.00	2.95	9.00
14	137.65	74.00	1.56	8.00
15	148.24	75.00	0.21	7.00
16	158.82	73.00	1.91	9.00
17	169.41	75.00	-0.34	7.00
18	180.00	74.00	0.49	8.00
19	190.59	72.00	2.38	10.00
20	201.18	75.00	-0.64	7.00
21	211.76	77.00	-2.59	5.00
22	222.35	78.00	-3.46	4.00
23	232.94	77.00	-2.26	5.00
24	243.53	77.00	-2.00	5.00
25	254.12	76.00	-0.67	6.00
26	264.71	75.00	0.69	7.00
27	275.29	74.00	2.09	8.00
28	285.88	73.00	3.51	9.00
29	296.47	77.00	-0.07	5.00
30	307.06	79.00	-1.66	3.00
31	317.65	80.00	-2.27	2.00
32	328.24	78.00	0.08	4.00
33	338.82	77.00	1.39	5.00
34	349.41	75.00	3.63	7.00
1	360.00	75.00	3.81	7.00

Section Parameters:

Runout = 10.00 mm

Eccentricity = 2.29 mm

Angle of Occurrence = 199.34°

Local Deformation:

Bludge In = 3.81 mm

Bludge Out = -3.46 mm

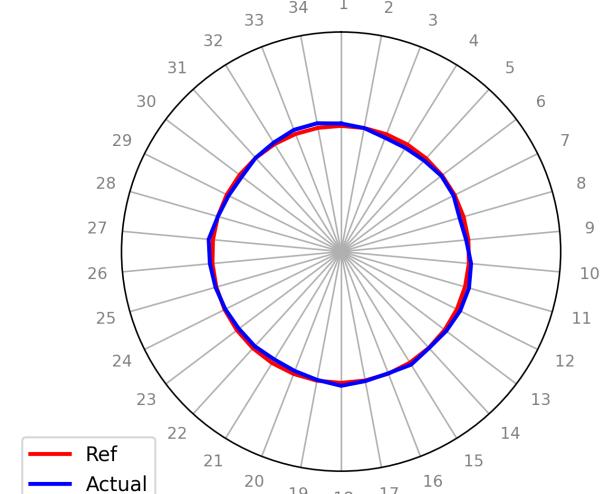
Temperature:

MIN Temp = 127.00°

MAX Temp = 125.00°

AVG Temp = 126.00°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 33

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	35.00	0.21	3.00
2	10.59	34.00	1.21	4.00
3	21.18	32.00	3.18	6.00
4	31.76	32.00	3.11	6.00
5	42.35	34.00	1.00	4.00
6	52.94	36.00	-1.14	2.00
7	63.53	34.00	0.70	4.00
8	74.12	34.00	0.51	4.00
9	84.71	36.00	-1.69	2.00
10	95.29	38.00	-3.89	0.00
11	105.88	38.00	-4.10	0.00
12	116.47	38.00	-4.30	0.00
13	127.06	33.00	0.51	5.00
14	137.65	32.00	1.34	6.00
15	148.24	32.00	1.20	6.00
16	158.82	29.00	4.09	9.00
17	169.41	29.00	4.01	9.00
18	180.00	34.00	-1.03	4.00
19	190.59	34.00	-1.04	4.00
20	201.18	30.00	3.00	8.00
21	211.76	33.00	0.07	5.00
22	222.35	33.00	0.18	5.00
23	232.94	32.00	1.31	6.00
24	243.53	35.00	-1.52	3.00
25	254.12	36.00	-2.34	2.00
26	264.71	37.00	-3.14	1.00
27	275.29	36.00	-1.93	2.00
28	285.88	34.00	0.28	4.00
29	296.47	34.00	0.48	4.00
30	307.06	35.00	-0.33	3.00
31	317.65	33.00	1.83	5.00
32	328.24	34.00	0.98	4.00
33	338.82	37.00	-1.91	1.00
34	349.41	36.00	-0.83	2.00
1	360.00	35.00	0.21	3.00

Section Parameters:

Runout = 9.00 mm

Eccentricity = 1.13 mm

Angle of Occurrence = 186.27°

Local Deformation:

Bludge In = 4.09 mm

Bludge Out = -4.30 mm

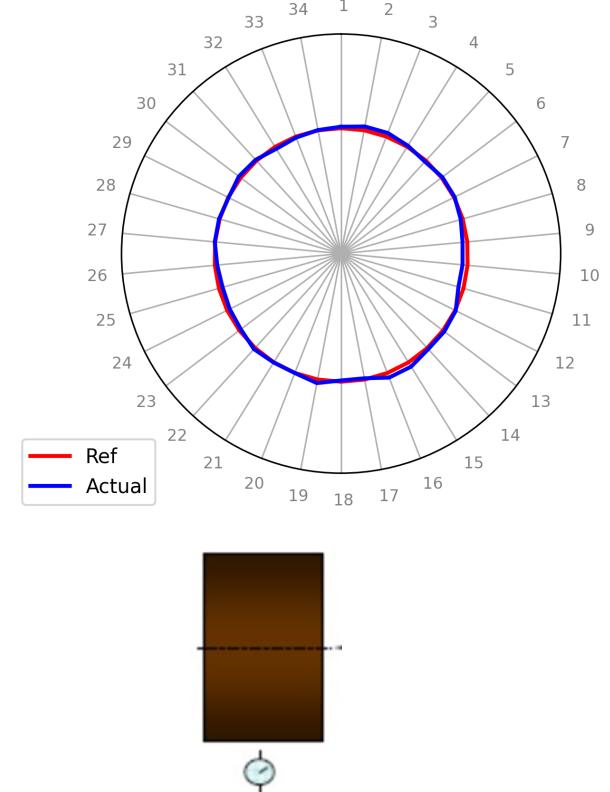
Temperature:

MIN Temp = 125.00°

MAX Temp = 117.00°

AVG Temp = 121.10°

Shell profile eccentricity Diagram



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 34

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	32.00	0.06	5.00
2	10.59	31.00	1.34	6.00
3	21.18	28.00	4.52	9.00
4	31.76	31.00	1.61	6.00
5	42.35	37.00	-4.42	0.00
6	52.94	37.00	-4.55	0.00
7	63.53	33.00	-0.78	4.00
8	74.12	30.00	1.89	7.00
9	84.71	33.00	-1.52	4.00
10	95.29	34.00	-2.99	3.00
11	105.88	30.00	0.48	7.00
12	116.47	25.00	4.92	12.00
13	127.06	25.00	4.34	12.00
14	137.65	27.00	1.77	10.00
15	148.24	28.00	0.22	9.00
16	158.82	29.00	-1.29	8.00
17	169.41	33.00	-5.74	4.00
18	180.00	32.00	-5.11	5.00
19	190.59	27.00	-0.39	10.00
20	201.18	25.00	1.42	12.00
21	211.76	22.00	4.34	15.00
22	222.35	21.00	5.36	16.00
23	232.94	23.00	3.49	14.00
24	243.53	32.00	-5.28	5.00
25	254.12	35.00	-7.95	2.00
26	264.71	28.00	-0.55	9.00
27	275.29	24.00	3.93	13.00
28	285.88	25.00	3.46	12.00
29	296.47	27.00	2.02	10.00
30	307.06	32.00	-2.40	5.00
31	317.65	33.00	-2.83	4.00
32	328.24	33.00	-2.28	4.00
33	338.82	30.00	1.23	7.00
34	349.41	30.00	1.68	7.00
1	360.00	32.00	0.05	5.00

Section Parameters:

Runout = 16.00 mm

Eccentricity = 3.14 mm

Angle of Occurrence = 214.68°

Local Deformation:

Bludge In = 5.36 mm

Bludge Out = -7.95 mm

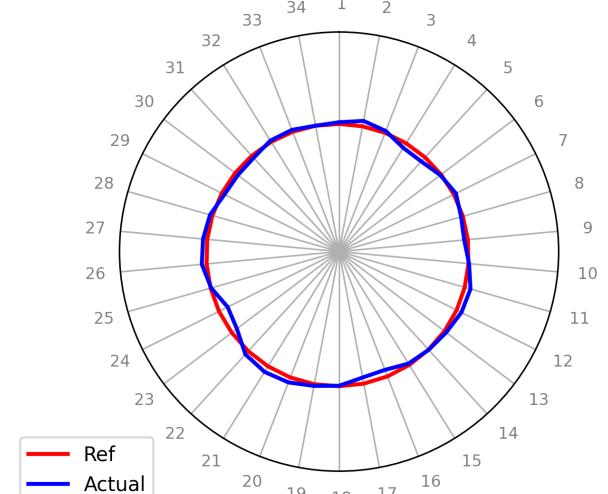
Temperature:

MIN Temp = 45.00°

MAX Temp = 44.00°

AVG Temp = 44.50°

Shell profile eccentricity Diagram



Ref
Actual



Radial Run out eccentricity Polar Graph



Company Name: ad

Equipment: hh

Feed Rate: hhh

Date of Measurement: 2025-11-12

Measured Position: 35

Position	Measurement	Data Measured	Distortion	Shell Run Out
1	0.00	87.00	-3.59	4.00
2	10.59	85.00	-1.35	6.00
3	21.18	83.00	0.80	8.00
4	31.76	82.00	1.87	9.00
5	42.35	81.00	2.84	10.00
6	52.94	85.00	-1.27	6.00
7	63.53	87.00	-3.47	4.00
8	74.12	85.00	-1.76	6.00
9	84.71	83.00	-0.11	8.00
10	95.29	78.00	4.48	13.00
11	105.88	76.00	6.03	15.00
12	116.47	76.00	5.54	15.00
13	127.06	79.00	2.05	12.00
14	137.65	80.00	0.55	11.00
15	148.24	84.00	-3.92	7.00
16	158.82	80.00	-0.35	11.00
17	169.41	82.00	-2.73	9.00
18	180.00	79.00	-0.05	12.00
19	190.59	84.00	-5.29	7.00
20	201.18	87.00	-8.45	4.00
21	211.76	82.00	-3.51	9.00
22	222.35	78.00	0.51	13.00
23	232.94	74.00	4.63	17.00
24	243.53	75.00	3.83	16.00
25	254.12	77.00	2.11	14.00
26	264.71	77.00	2.46	14.00
27	275.29	77.00	2.87	14.00
28	285.88	82.00	-1.67	9.00
29	296.47	75.00	5.81	16.00
30	307.06	78.00	3.31	13.00
31	317.65	83.00	-1.20	8.00
32	328.24	83.00	-0.73	8.00
33	338.82	85.00	-2.30	6.00
34	349.41	91.00	-7.92	0.00
1	360.00	87.00	-3.60	4.00

Section Parameters:

Runout = 17.00 mm

Eccentricity = 2.69 mm

Angle of Occurrence = 214.29°

Local Deformation:

Bludge In = 6.03 mm

Bludge Out = -8.45 mm

Temperature:

MIN Temp = 104.00°

MAX Temp = 100.00°

AVG Temp = 102.00°

Shell profile eccentricity Diagram

