



Forged Steel Grinding Balls – M10 Product Specification

Ball Size Inch / mm	Out of Round Tolerance Inch / mm	Nominal Ball Weight Lbs/Kg	Ball Weight Range	Average Diameter		Avg. Hardness +/- 4Rc Surface / AVH
				MAX Inch / cm	MIN Inch / cm	
1.0 / 25mm	.040 / 1.016	.147 / .067	0-12%	1.035 / 2.629	1.008 / 2.560	62 / 62
1.25 / 32mm	.040 / 1.016	.288 / .131	0-12%	1.291 / 3.279	1.264 / 3.211	62 / 62
1.5 / 38mm	.040 / 1.016	.498 / .226	0-10%	1.534 / 3.896	1.504 / 3.820	62 / 62
2.0 / 50mm	.060 / 1.524	1.181 / .536	0-14%	2.045 / 5.194	2.008 / 5.100	62 / 62
2.5 / 64mm	.065 / 1.651	2.307 / 1.046	6-12%	2.596 / 6.594	2.554 / 6.487	62 / 61
3.0 / 76mm	.080 / 2.032	3.987 / 1.809	5-10%	3.112 / 7.904	3.057 / 7.765	62 / 60
3.5 / 89mm	.100 / 2.540	6.361 / 2.885	0-8%	3.611 / 9.172	3.536 / 8.981	62 / 62

Typical Chemistry

BALL SIZE	C	MN	P	S	SI	CU	NI	CR	MO
1	.90 / 1.10	1.10 MAX	.05 MAX	.050 MAX	.25 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
1.25	.90 / 1.10	1.10 MAX	.05 MAX	.050 MAX	.25 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
1.5	.90 / 1.10	1.10 MAX	.05 MAX	.050 MAX	.25 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
2.0	.90 / 1.10	1.10 MAX	.05 MAX	.050 MAX	.25 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
2.5	.90 / 1.10	1.10 MAX	.05 MAX	.050 MAX	.25 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
3.0	.90 / 1.10	1.10 MAX	.05 MAX	.050 MAX	.25 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
3.5	.90 / 1.10	1.10 MAX	.05 MAX	.050 MAX	.25 MAX	.55 MAX	.40 MAX	.70 MAX	.15 MAX

Gerda Ameristeel reserves the right to modify chemistry and/or physical properties at any time to meet internal specifications

Approved By: <i>John Kuhn</i> Plant Manager	Revision Number: <u>6</u>	Effective Date: <u>1/21/10</u>	Replaced Spec Dated: <u>12/30/08</u>
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Forged Steel Grinding Balls - Severe Service Product Specification (SS)

Ball Size Inch / mm	Out of Round Tolerance Inch / mm	Nominal Ball Weight Lbs/Kg	Ball Weight Range	Average Diameter		Severe Service Avg. Hardness +/- 5Rc Surface / AVH
				MAX Inch / cm	MIN Inch / cm	
1.0 / 25mm	.040 / 1.016	.147 / .067	0-12%	1.035 / 2.629	1.008 / 2.560	56 / 56
1.25 / 32mm	.040 / 1.016	.288 / .131	0-12%	1.291 / 3.279	1.264 / 3.211	54 / 54
1.5 / 38mm	.040 / 1.016	.498 / .226	0-10%	1.534 / 3.896	1.504 / 3.820	55 / 55
2.0 / 50mm	.060 / 1.524	1.181 / .536	0-14%	2.045 / 5.194	2.008 / 5.100	55 / 55
2.5 / 64mm	.065 / 1.651	2.307 / 1.046	6-12%	2.596 / 6.594	2.554 / 6.487	55 / 55
3.0 / 76mm	.080 / 2.032	3.987 / 1.809	5-10%	3.112 / 7.904	3.057 / 7.765	53 / 54
3.50 / 90mm	.100 / 2.540	6.361 / 2.885	0-8%	3.611 / 9.172	3.536 / 8.981	52 / 51

Typical Chemistry

BALL SIZE	C	MN	P	S	SI	CU	NI	CR	MO
1	.70/.85	1.00 MAX	.05 MAX	.05 MAX	.35 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
1.25	.70/.85	1.00 MAX	.05 MAX	.05 MAX	.35 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
1.5	.70/.85	1.00 MAX	.05 MAX	.05 MAX	.35 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
2.0	.70/.85	1.00 MAX	.05 MAX	.05 MAX	.35 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
2.5	.70/.85	1.00 MAX	.05 MAX	.05 MAX	.35 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
3.0	.70/.85	1.00 MAX	.05 MAX	.05 MAX	.35 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX
3.5	.70/.85	1.00 MAX	.05 MAX	.05 MAX	.35 MAX	.55 MAX	.40 MAX	.60 MAX	.15 MAX

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Approved By: <u>John Kuhn</u> Plant Manager	Revision Number: <u>13</u>	Effective Date: <u>1/21/10</u>	Replaced Spec Dated: <u>09/22/08</u>
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