

**MOLYCOP**

GRIND

# **BALL MILLING TECHNICAL SPECIFICATIONS**

*CAST BALLS*

MCAU-CSTTS1.3\_290519

**MOLYCOP.COM**

# CAST BALLS

## TECHNICAL SPECIFICATIONS

Chemistry (weight %)											
Description	Product Code	C		Mn		Si		Cr		Mo	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Low Chrome Level Cast Ball	MCCR08	2.1	3.5	0.3	1.5	0.5	2.0	7.0	10.0	0.00	0.05
Medium Chrome Level Cast Ball	MCCR12	2.0	3.5	0.3	1.5	0.3	1.2	10.0	14.0	0.00	0.05
Medium Chrome Level Cast Ball	MCCR15	2.0	3.5	0.3	1.5	0.3	1.3	14.0	18.0	0.00	0.05
High Chrome Level Cast Ball	MCCR20	2.0	3.5	0.3	1.5	0.3	1.3	18.0	23.0	0.00	0.05
High Chrome Level Cast Ball	MCCR26	2.0	3.5	0.3	1.5	0.3	1.3	23.0	30.0	0.00	0.05
		S Max (0.1)				S Max (0.1)					

Weight						Ovalisation			
(mm)	Min	Max	(mm)	Min	Max	(mm)	Max	(mm)	Max
15	0.011	0.011	50	0.337	0.460	15	7.5	50	5.5
17	0.016	0.017	60	0.593	0.790	17	7.5	60	5.5
20	0.026	0.027	70	1.001	1.201	20	7.5	70	5.5
25	0.041	0.069	80	1.616	1.765	25	7.0	80	5.5
30	0.082	0.127	90	2.147	2.483	30	6.5	90	5.5
40	0.167	0.245	n/a	n/a	n/a	40	6.0	n/a	n/a

Hardness											
Description	Product Code	Surface		1/4 Radius		1/2 Radius		3/4 Radius		Center	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Low Chrome Level Cast Ball	MCCR05	60.0	66.0	60.0	66.0	60.0	66.0	60.0	66.0	60.0	66.0
Medium Chrome Level Cast Ball	MCCR13	63.0	69.0	63.0	69.0	63.0	69.0	63.0	69.0	63.0	69.0
Medium Chrome Level Cast Ball	MCCR17	58.0	63.0	58.0	63.0	58.0	63.0	58.0	63.0	58.0	63.0
High Chrome Level Cast Ball	MCCR20	59.0	65.0	59.0	65.0	59.0	65.0	59.0	65.0	59.0	65.0
High Chrome Level Cast Ball	MCCR30	59.0	64.0	59.0	64.0	59.0	64.0	59.0	64.0	59.0	64.0

The above is intended as a guide only. Individual ball hardness readings may fall outside the range listed above.

**CAST BALL TECHNICAL MANUFACTURING  
PRODUCT SPECIFICATIONS**

**CHEMISTRY**

Chemistries must comply with the nominated technical specification provided by the supplier. Typically, chemistries should comply with the table opposite.

**WEIGHT**

Ball weights are typically within the minimum and maximum ranges opposite.

**HARDNESS**

Hardness shall comply with the suppliers' technical specification. Typically, hardness shall fall into the ranges opposite.

**OVALITY**

Ovality should comply with the suppliers' technical specification. Typically ovality shall comply with the maximums opposite.

**SHRINKAGE AND POROSITY**

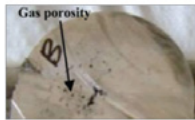
a. Centre shrinkage cavities not greater than 10% of the radius of the ball are permissible. Shrinkage cavities within the body of the ball are not permissible. Photos following provide typical examples:



Cavity complies with Certificate of Conformance testing requirements (above).



Cavity does not comply with Certificate of Conformance testing requirements (above).



Porosity does not comply with Certificate of Conformance requirements (above).

b. porosity is not permissible. The following photos show typical examples:

**SURFACE DEFECTS AND IRREGULARITIES**

a. Surface defects should comply with the suppliers' specifications. The following photos provide typical acceptance and non-compliance examples:



Acceptable surface irregularity.

Not acceptable surface irregularities.

b. The surface shall be free from oil or polymer quenchant.

**DROP TOWER TEST RESULTS**

The product shall comply with the suppliers' specifications.

**PACKAGING OPTIONS**

**BULK**

Balls can be transported in bulk open top trucks, open top rail cars, or in standard 20ft containers.

**BAGS**

Balls can be supplied in polypropylene bags which have secure bag straps to reduce time and effort in loading and unloading. While bags are treated to resist UV rays, bags should be protected from direct sunlight to maximize shelf life.

**DRUMS**

Recycled drums can also be supplied. Drums are more efficient for some modes of transportation and can also be delivered on wooden pallets.

*If you require grinding media for your operations, or just want more information, we're here to answer any of your questions.*

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