

## CALCULATE MILL SIZE

Moly-Cop Tools™ (Version 2.0) **SCAW METALS GROUP**

**BOND'S LAW APPLICATION**  
**Conventional Ball Mill Sizing**

Remarks:

**GRINDING TASK :**

Ore Work Index, kWh(net) /metric ton	13.00	Specific Energy, kWh/ton	9.30
Feed Size, F80, microns	9795	Net Power Requirement, kW	7441
Product Size, P80, microns	150.0	Number of Mills for the Task	2
Design Throughput, ton/hr	800.00	Net kW / Mill	3720

**MILL DESIGN PARAMETERS AND OPERATING CONDITIONS :**

Eff. Diameter ft	Eff. Length ft	Mill Speed % Critical	Charge Filling,%	Balls Filling,%	Interstitial Slurry Filling,%	Lift Angle, (°)	Power, kW	
18.50	22.00	72.00	38.00	38.00	100.00	35.00	3348	Balls
							0	Overfilling
							536	Slurry
							<b>3885</b>	<b>Net Total</b>
							10.0	% Losses
							<b>4316</b>	<b>Gross Total</b>

% Solids in the Mill	72.00	Charge Volume, m <sup>3</sup>	Mill Charge Weight, tons			Apparent Density ton/m <sup>3</sup>	
	2.80		Ball	Interstitial	Slurry		
Ore Density, ton/m <sup>3</sup>	1.86		Charge	above Balls			
Slurry Density, ton/m <sup>3</sup>	7.75		63.76	296.48	47.48	0.00	5.395
Balls Density, ton/m <sup>3</sup>							

**Power Oversize, %**

**HYDROCYCLONES CLUSTER : (Preliminary Sizing)**

# Cyclones per Mill	Cyclone Diameter, in	Feed % Solids	Circulating Load, %	ton/hr per Cyclone	m <sup>3</sup> /hr per Cyclone	Pressure Loss, psi
6	26.00	62.00	350.0	300.0	291.0	8.10

**ARBITER'S FLOW NUMBER:**

	Mill Feed (incl. Recycle) ton/hr	Flow Number
Direct Circuit:	1800.0	1.97
Reverse Circuit:	1400.0	1.54