

**TECHNICAL BID PROFORMA**  
**Item Name: Ball Mill**

**1.0 Bidder Eligibility Criteria:**

I	<b>Bidder Eligibility Criteria-I (Public Procurement – Preference to Make in India)</b>	<b>Class I / Class II</b>	<b>Local Content value</b>	<b>Reference, Page No.</b>
I	Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE II) dated 16 <sup>th</sup> September 2020 and other subsequent orders issued therein.			
<b>2.0</b>	<b>Bidder Eligibility Criteria-II</b>	<b>Compliance (Yes/No)</b>	<b>Reference Page No.</b>	<b>Remarks, If any</b>
1	The bidder/OEM should have supplied at least 3 similar items to IITs, NITs, IISERs, CSIR Labs or other Govt. R&D organizations in the last 3 years, PO copies or installation certificates along with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation.			

**3.0 Technical Compliance:**

<b>S.No</b>	<b>Specification</b>	<b>Comply/ Not Comply</b>	<b>Ref. Page No.</b>
1.	Maximum feed particle size - upto 10 mm or better		
2.	Final fineness should be less 1 $\mu$ m		
3.	Minimum Sample Quantity should be 10 ml or better		
4.	Maximum Sample Quantity should be 200 ml or more		
5.	No. of bowls – two numbers of corrosion resistant hardened stainless steel bowls with at least 500 ml volume each		
6.	Corrosion resistant hardened stainless steel grinding Balls of 10 mm and 5 mm diameter should be provided.		
7.	Transmission ratio should be 1: - 1.82 or better		
8.	Effective diameter of main disk should be less than or equal to 125 mm or less. Appropriate numbers of balls can be quoted.		

9.	Rotational Speed of main disk upto 650 rpm		
10.	Use of gas pressure and temperature measuring system. The mill should have the facility to monitor continuously and record the data of gas pressure and temperature throughout the grinding proces		
11.	Typical grinding time down to analytical fineness should be approximately 4 minutes		
12.	Dry and wet grinding should be possible		
13.	The mill should be benchtop model and should be capable of holding on a laboratory table		
14.	No-Loss during grinding both in dry milling and suspension we milssing		
15.	Compensation of unbalance of grinding bowl using a compensation mechanism to avoid damage to the rotary mechanism of the mill		
16.	Possibility to add additional lock-system and/or special lid for grinding in inert atmosphere		
17.	Synchronous toothed belt drive of the bowls to guarantee a slip-free operation should be provided		
18.	Grinding chamber should have capability to be cooled by built-in to permit longer grinding times		
19.	Programmable interval times, break times and rotation direction (clock wise & anti clock wise)		
20.	Door with safe lock mechanism should be provided.		
21.	Elemental analysis of Hardened Stainless Steel should be 81.4% Iron, 17 % Chromium, 1.1% Carbon, 0.5% Molybdenum. Alternate closest corrosion resistant hardened steel material can also be allowed if appropriate evidence of no-corrosion in balls or mill is provided. Evidence should be provided from an existing user of mill (at least one year) either from an academic institute or industries		
22.	Instrument should be CE Certified.		

23.	Minimum one year onsite warranty from the date of installation of the products.		
24.	Any additional components required for ball mill should be added as per the required technical specifications.		
25.	The bidder should have direct presence in India to enable quick service or if a reseller/distributor submits tender, proof of service engineers available with them for the quoted ball mill should be provided.		
26.	Installation and training onsite is required.		