

**FABRICATION DIVISION**  
Welding Development & Technology

Date: 05, Jan 2015

**Technical Specification No: FBM/WD&T/TS06 Rev 01**

Technical Specification for HVOF Coating Powder WC10Co4Cr

S. No	Description	Requirement	Vendor	Offered	Deviation (if any)	Remarks
<b>1</b>	<b>General</b>					
1.1	Chemical Composition (Nominal Range in percentage by weight)	WC-10Co-4Cr Cobalt: 8.5 % - 11.5 % Chromium: 3 % - 5% Carbon: 4.8% - 6% Total All Others: 0.5 % (max) Tungsten: Balance	Vendor to confirm. (Detailed Technical catalogue/data sheet with mention of properties to be submitted with offer.)			
1.2	Manufacturing	Agglomerated and Sintered				
1.3	Shape	Spheroidal				
1.4	Particle size	- 45 to + 15 microns				
1.5	WC Particle Size	≤ 0.8 microns				
1.6	Flow ability	Free flow type				
1.7	Apparent Density	> 4.5 g/cc				
2.1	Brand		Vendor to Specify			
2.2	Country of origin					

  
5/1116

S. No	Description	Requirement	Vendor	Offered	Deviation (if any)	Remark
3	Physical Properties of powder	Vendor may provide parameters for Wokastar 600 Gun of M/s Oerlikon Metco Make system (formerly known as Sulzer Metco) to achieve below properties.	Vendor to confirm.			
3.1	Hardness (0.3 Kg Load)	1250-1500 Hv 0.3	(Data sheet with mention of properties to be submitted with offer.)			
3.2	Porosity	< 1%				
3.3	Bond Strength:	10000 Psi or more (ASTM C 633)				
3.4	Roughness:	< 6 Ra				
3.5	Deposition Efficiency	: > 45%				
3.6	Service temperature	Vendor to Specify				
4	The above powder should be compatible with liquid fuel based and Gas fuel based HVOF system		Vendor to confirm			
5	Test certificate/Data Sheet	Test certificate from original powder manufacturer for each batch supplied with specific mention of properties as mentioned at clause 1 to be provided. Test certificate/Data Sheet of properties as mentioned at clause 3 to be provided by Original powder manufacturer.	Vendor to confirm			
6	Correspondence	In case of authorized vendor quotes for the tender then the following must be met: All Technical correspondence and confirmation shall be done with their principal supplier (Original powder manufacturer). Original powder manufacturer shall provide to BHEL the dispatch details (Bill of loading/GR/RR/AWB) along with packing list of the material All liability for quality of product shall be of principal.	Vendor to confirm			

5/11/16