

TECHNICAL DELIVERY CONDITIONS

PROJECT : BMRCL Metro Cars

ITEM : Bogie Fasteners

Doc No : GR/TD/5164

Sl. No.	Clause Description	Compliance
1	Test certificates for Chemical composition and Mechanical properties as per the standard, from the OEM, shall be submitted.	
2	Dimensional check sheet as per standards shall be submitted	
3	The material used shall comply with SAE J404/AISI 4140(Bolt & Screw), SAE J404/AISI 4135(Nut), SAE J404/AISI 4140(Plain Washer), EN 42J(Spring lock washer), AISI 1045/EN 8D(Castle Nut) & SAE J403/AISI 1010~AISI 1015(Split pin). Vendor shall submit alloying composition for fasteners along with the technical offer as per above mentioned SAE/AISI standards.	
4	Test certificate for Geomet finish: a. All fasteners shall be supplied with Geomet finish to Grade 6 of ASTM F1136 with a black top coat. The basecoat shall be of Non-chrome (NC) type. b. As Geomet is a patented technology of M/s NOF Metal coatings and M/s Grauer & Weil (India) Ltd is the authorized distributor in India for Geomet chemicals. The vendor shall submit the License certificate from M/s Grauer & Weil (India) Ltd along with the offer. c. Test report for coating thickness shall be submitted along with the supplies. d. Test report for Salt spray test as per ASTM B 117 shall be submitted for each type of fastener along with every batch of supplies. e. Test report for adhesion test as per ASTM D 3359 shall be submitted for each type of fastener along with every, batch of supplies. f. All other applicable test reports as per clause 2 of ASTM F1136 shall be submitted along with the supplies. g. The Geomet coating shall have a uniform appearance, free from tears and other discontinuities which may affect the appearance or performance of the coating or both. h. The Geomet coating shall not have an adverse effect on normal installation and removal practices as determined by the proper GO thread gauge.	
5	Fasteners shall be clearly marked to include steel grade, property class and the Manufacturer's identification mark.	
6	Coating procedure shall be submitted for due approval of BEML.	
7	ITP (Inspection and test plan) shall be submitted to BEML along with the offer.	
8	The coating shall comply to fire requirements as per EN 45545	
10	The supplier shall submit Compliance for the above points along with their technical offer. Any deviation or Non compliance is liable for rejection.	

