

ANNEX - A TO**BOF TENDER NO 23.27.0000.166/167.96(6A).3256105.19.20****DATED 11 AUGUST 2021****DETAILS SPECIFICATION**

Name of Item and Specification	Unit	Qty
<p>Raw Material of Polyamide-12</p> <p>Specification :</p> <ol style="list-style-type: none"> 1. Density at 23°C = 1.01 – 1.02 g/cm 2. Apparent bulk density.= 0.50 – 0.60 g/cm 3. Maximum water absorption. Water Immersion at 23°C = 1.50%, at 20°C 65% RH as per 50015 = 0.90% 4. Water absorption = 14 mg 5. Melting range. Method B : 172-180°C 6. Vic at softening Temperature. (VST/A/50) =170°C (VST/B/50) =140°C 7. Deflection of Temperature. Under Load = Method A: 55°C, Method B : 150°C 8. Mean coefficient of linear expansion (-40°C to room temperature) $11 \times 10^{-5} K^{-1}$ 9. Thermal conductivity = 0.3. W/mk 10. Long term thermal resistance (>10h). In air 70°C, In Water 80°C, In Oil 120°C. 11. Short term thermal Resistance= 150°C 12. Tensile stress at yield = 50 N/mm² 13. Percentage of elongation at yield = 8% 14. Tensile stress at break = 55 N/mm² 15. Percentage of elongation at break = 200% 16. Comprehensive stress at 0.1% strain = 50 N/mm² 17. Modulus of elasticity = 1400 N/mm² 18. Flexural stress at 35% strain = 42 N/mm² 19. Ball indentation = 94 N/mm² 20. Hardness = (DIN Test: H358/30) 21. Shore Hardness = 73D 22. Rockwell Hardness = 110R 23. Impact strength (Untouched) (Charpy -40°C) = No break mJ/mm² 24. Impact strength (Notched) (Charpy +20°C) = 20 mJ/mm² 25. Impact strength (Notched) (Izod) = 12 J/m, 150 of notch <p>Condition: The supplier/manufacturer will provide suitability certificate to the effect that offered Polyamide-12 must be brand new (Virgin). Its shelf life will be 15 years in temperature 35°C.</p>	Kg	35,000
<p>Conditions:</p> <ol style="list-style-type: none"> a. Country of Origin : Group-B. b. Country of Manufacture : Group-B. c. Port of Shipment : Country of Manufacturer. d. Part-shipment : Not allowed. e. Transshipment : Not allowed. f. PDS : To be mentioned. g. 100% payment will be paid after final acceptance of the stores by BOF inspection authority. h. Warranty/Guarantee and Shelf Life certificate for supply of store as per offer to be provided by the manufacturer along with the offer and store. j. Tender Sample: Tender sample stage 15 Kg of the store should be submitted with the offer for necessary visual inspection, chemical/laboratory and mechanical/functional test. 		

Terms & Conditions

Supplier must mention their compliance on the following mentioned points :

1. A principal/manufacture can submit **only one offer through one local agent** for any individual item. Offers through multiple local agents by same principle/manufacture will be **treated as rejected**.
2. To ensure unhindered LC handling the principal must provide a certificate to confirm that their LC operating bank has RMA (Relationship Management Agreement) with the local Banks of Bangladesh
3. Supplier must **clearly mention** (in the technical offer) that as principal/manufacture they poses necessary **export permit** from the concern ministry or any other authority of their country. They must also submit a certificate in this regards as per the attached specimen format at Annex G.

4. **Payment and PG Submission**

For Foreign Currency

- i. 100% payment will be made upon final acceptance of the Stores.
- ii. Before signing the contract, Performance Guarantee @ 10% of total LC value is to be submitted by the Principal in favour of Commandant, Bangladesh Ordnance Factories, Gazipur Cantonment, Gazipur through any scheduled Bank located in Bangladesh (As per the format at Annex E).
- iii. A separate **certificate should be provided** by the principal **originally signed** (Computerized or digitally edited signature will not be accepted) stating that they are aware of the requirement of the PG and if the contract is awarded they will be bound to provide the PG as per the format at Annex F, **otherwise administrative action will be taken against the principal and local agent.**

For Local Currency

- i. 100% payment will be made upon final acceptance of the Stores.
 - ii. 05% PS (Performance Security) as pay-order has to deposit in local currency before signing the contract.
5. The stores should be supplied to BOF at **supplier's cost**.
6. On arrival of the stores at BOF, the supplier must complete installation, commissioning, trial run & trial production within 01(one) month (from the date of entry at BOF). Otherwise, penalty will be imposed at the rate of 2% but not less than 1% and will not exceed 10% of the total CFR/LC vale (As applicable).
7. If the supplier fails to deliver the stores within the stipulated period, the followings will be applicable:
- a. Cancel the contract and/or,
 - b. Decision at the discretion of BOF.
8. Inspectorate is the authority in all matters pertaining to Inspection. Any verdict by the inspectors regarding rejection, acceptance, and /or deviation of machine involving price reduction will be treated as final and will not be subject to arbitration.
9. The Supplier must submit the following **attested documents** with the schedule :
- a. **Trade License**
 - b. **Tin Certificate**
 - c. **Up to date VAT Registration certificate.**

ANNEX B TO

BOF TENDER NO 23.27.0000.166/167.96(6A).3256105.19.20

DATED 11 AUGUST 2021

GENERAL AND OTHER REQUIREMENTS OF RAW MATERIAL OF POLYAMIDE – 12

1. **General Requirements.**

a. The store must be brand new (virgin), free from all defects, impurities and should be suitable for manufacturing BOF Products. Certificate should be provided to this effect by the manufacturer along with the offer and store.

b. The store must be suitable for use in tropical climate. Certificate should be provided to this effect by the manufacturer along with the offer and store.

c. The year of manufacture of the store should be current year i.e contracted calendar year. Certificate should be provided to this effect by the manufacturer along with the offer and store.

d. The store should be safe in storage, transportation etc. and should not cause any health hazard. Certificate should be provided to this effect by the manufacturer along with the offer and store.

e. Guarantee Certificate for supply of store as per offer to be provided by the manufacturer along with the offer and store.

f. Warranty and Shelf Life Certificate by the manufacturer as mentioned below should be furnished along with the offer and store :

(1) **Warranty Certificate.** The store supplied is brand new (virgin), free from any defects, free from impurities and that in the event of any shortage, defects/damages being found after inspection the store should be replaced by the supplier at their own cost within 90 (ninety) days of the case arises. During manufacturing of BOF products, if any defects/damages found then the supplier should replace the defective quantity of the store at their own cost within 03 (three) months of the case arises. The warranty period of the store will be 01 (one) year from the date of issue of "Inspection Note" by IA&E.

(2) **Shelf Life Certificate.** The Shelf Life of the store will be 15 (fifteen) years (in temperature 35⁰C) from the date of manufacture. If the store is found defective within the shelf life, it must be replaced by the supplier at their own cost within 03 (three) months of the case arises.

g. Packing Material to be such that it will not be affected by rust, damp, insects or any other harmful material during storage up to the shelf life. Certificate should be provided to this effect by the manufacturer along with the offer and store.

h. The store should be preferably of 01 (one) lot but not more than 02 (two) lots.

j. All markings and other details should be in English Language.

k. All certificates and letters of authorization should be original in English Language.

l. Quality Control and Inspection Certificate by the manufacturer must be provided along with the offer and store.

m. IA&E will issue final Inspection Report within one month after receipt the store at Consignee's end provided the Visual Inspection, Chemical/laboratory and mechanical/functional test are satisfactory and the case of clarification/replacement, if any is settled as per Visual Inspection, chemical/laboratory, mechanical/functional test are completed within the time (01 Month).

Part Inspection Note will not be issued.

2. **Catalogue/Brochure.** Original Catalogue/Brochure having technical information in English Language should be provided by the manufacturer along with the offer. Laminated/Computer Printed Catalogue/Brochure is not acceptable. Chemical composition of the store should be mentioned in the offer.
3. **Tender Sample.** During tender stage 15 Kg of the store should be supplied by the supplier along with offer for necessary visual inspection, chemical/laboratory and mechanical/functional test.
4. Before bulk supply, 15 Kg advance sample should be submitted to IA&E for final approval (if items are manufactured locally).
5. **Manufacturer's Laboratory Test Result.** Laboratory test result of the store (Chemical composition and mechanical properties) from the manufacturer should be provided along with the offer and stores by the supplier.
6. **Packing.**
 - a. As per international packing procedure of the factory standard, considering that the package should have suitable means for holding by hands and should be easy to handle during storage and transportation. Package of 25 kg of the store is preferable.
 - b. A Packing List/Note showing lot details and number of bags against each lot should be furnished in each bags.
 - c. The stores are to be securely packed with sea worthy packing and clearly marked for safe transit by air/sea/road/rail. The packing and marking will be done by the supplier in such a manner that the stores will not be affected by sea water, rust, rain water, and damp weather during transportation.
7. **Marking on the Packing Bags.**
 - a. Following marking to be printed on one side of the bags.
 - (1). Consignee : Commandant, Bangladesh Ordnance Factories, Gazipur Cantonment, Bangladesh.
 - (2) Contract number & dt:
 - (3) Package number : 01/100, 02/100 and so on.
 - b. Following marking to be printed on the other side of the bags :
 - (1) Full nomenclature of the store.
 - (2) Lot number & year of manufacturer, and factory code.
 - (3) Dimension of the bags.
 - (4) Net weight of the store.
 - (5) Country of Origin.
8. **Quality Assurance Certificate (QAC).** "Quality Assurance Certificate" of Quality Control Department of the manufacturer will be considered as PSI report and that should be provided by the manufacturer along with the shipping documents.
9. **Post-shipment Inspection Requirement.**
 - a. Visual Inspection, Chemical/laboratory and mechanical/functional test will be carried out by the Post shipment Inspection team during Post shipment Inspection.
 - b. IA&E will carry out the various test of store.
 - c. Charge of test (if any) should be born by the supplier.
10. **Authority Holding Sealed Particulars.** CI, IA&E, Gazipur Cantonment.
11. **Inspection Authority.** CI, IA&E, Gazipur Cantonment or authorized representative.
12. **Part-shipment.** Part-shipment is not allowed.
13. **Transshipment.** Transshipment is not allowed.
14. **Inspection Certificate.** Final Inspection Certificate from the manufacturer should be provided along with the store by the supplier.
15. **Country of Origin.** Group - B.