

**GOVERNMENT OF INDIA  
MINISTRY OF DEFENCE  
RESEARCH AND DEVELOPMENT ORGANISATION  
DIRECTORATE OF AERONAUTICS**

**TYPE APPROVAL No : 180**

**ISSUED TO** : M/s HINDUSTAN AERONAUTICS LIMITED  
KORAPUT DIVISION  
SUNABEDA-2

**FOR** : **BRONZE SPOC 5-25**

**CO-ORDINATED BY** : CRE (KORAPUT)

This is to certify that Bronze alloy SPOC 5-25 developed by M/s HAL, Koraput Division from indigenous virgin materials meets the requirements, laid down by Directorate of Aeronautics (R&D).

2. Bronze alloy SPOC 5-25 developed by M/s Hindustan Aeronautics Limited, Koraput Division from indigenous virgin materials, listed in Appendix I, is cleared for aeronautical application in lieu of Russian Bronze SPOC 5-25 conforming to specification AMTY 211-51 and technical instruction 37M-156.

3. **BASIS OF APPROVAL :-**

- (i) Satisfactory compliance of test schedules laid down by Chief Resident Engineer (Engines), Directorate of Aeronautics, Sunabeda as per Appendix II.
- (ii) Satisfactory performance of the component, cast and fabricated from indigenous material Bronze SPOC 5-25 during first test on engine serial No. HDR 50162 and T-7742172 and its satisfactory condition during subsequent strip examination.

4. This approval is contingent upon quality control aspects of bulk production being cleared by Directorate of Technical Development and Production (Air), Ministry of Defence.

5. Prior agreement of this Directorate will have to be obtained if this type approval is to be transferred to any other agency or if changes are effected in the type record.

Encl : Appendix 'I & II'

No. : AERO/RD-132/106/2

Date : 19 Jun 1976



( VIVEK R SINHA )  
Director of Aeronautics