

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

**TYPE APPROVAL No : 392**

**ISSUED TO** : M/s FIRTH (INDIA) STEEL CO.LTD.  
PLOT No. F3, ROAD No. 22, WAGLE INDUSTRIAL  
ESTATE THANE - 400 604

**FOR** : **ESR QUALITY ALLOY STEEL ROD GRADE (I) 12  
KHN-3A AS A SUBSTITUTE TO USSR STEEL  
GRADE 12 KHN-3A.**

**CO-ORDINATED BY** : RCMA (NASIK)

This is to certify that ESR Quality Alloy Steel rod grade (I) 12 KHN-3A cold drawn & annealed designed and developed by M/s Firth (India) Steel Co. LTD. has been tested as per schedule drawn by Directorate of Aeronautics and found suitable as a substitute to USSR steel rods grade 12 KHN-3A for manufacture of aircraft components.

**2. BASIS FOR TYPE APPROVAL :**

Satisfactory conformity to test schedule No.TS/IND/MAT /038 and the test results placed at appendix A&B.

3. The approval serial No. quoted above must be reflected in all relevant drawings, contracts and release notes.

4. This approval is contingent upon the quality control aspects of bulk production being cleared by DTD&P (Air), Ministry of Defence, New Delhi.

5. This approval is valid initially for three years from the date of issue and will have to be renewed subsequently.

6. Prior agreement of Directorate of Aeronautics will have to be obtained, if this approval is to be transferred to any other agency or if changes within the Type Record enclosed are effected.

Encl : Appendix 'A' and 'B'

No. : AERO/RD-132/106/3

Date : 16 Dec. 1982

*S.C. Gupta*  
Air Cmde.

(S.C.GUPTA)  
Director of Aeronautics