


INDIGENISATION OF ITEMS/EQUIPMENTS – MAKE II PROJECTS

Mazagon Dock Shipbuilders Limited, Mumbai, Maharashtra invites Indian Manufacturers for long term participation in its Submarine Production programme and its life cycle management, by developing and manufacturing the item/equipment's used in Submarine/Warship.

1. Indian industries who willing to develop Soda Lime are invited to participate in indigenisation programme likely to be taken up under MAKE II project. Procurement order will be awarded to development agencies after successful development, followed by MDL due commercial procedure.
2. In case of any queries/clarifications please contact
Deepak Chaudhari, M (Indigenisation) on Tel Dir: 00 91 22 2378 2336
Board line 00 91 22 2376 2709
e-mail: dchaudhari@mazdock.com
3. Details of Product likely to be taken under Make-II process of Indigenisation.

| S.N O. | DESCRIPTION OF ITEM/EQUIPMENT/ PROJECT | START DATE & TIME | END DATE & TIME | PHOTO | TECHNICAL SPECIFICATI ONS |
|--------|--|---------------------|---------------------|--|---|
| 1 | Soda Lime | 31/08/2020 09:00 | 30/09/2020 15:00 |  | Brief Technical specification of Soda Lime as mentioned below |

4. Detailed EOI will be issued after getting Management approval.

Brief Technical Specification of Soda Lime

Introduction:

Soda lime cells are used to eliminate the Carbon dioxide & the safety of the personnel on board when the submarine is in navigation conditions. Soda lime composed of smaller particle size (1.0mm to 2.5mm) and having a triangular cross-section which combine to give higher Co₂ usable capacity. It is a mixture of calcium hydroxide, water, dye and less than 4% weight of sodium hydroxide in a chemical and physical form. Required quantities of soda lime are 2500 Kg/Submarine for crew and 4000 Kg/Submarine during the sea trials. The required shelf life for the soda lime is 5 years.

Application:

Diving grade Soda lime absorbs carbon dioxide ensuring a breathable atmosphere is maintained. It is optimised for the removal of carbon dioxide from recirculated air/nitrox/heliox in rebreathers, saturation dive system and submarine.

Properties:

- High intrinsic carbon dioxide capacity
- Available with white to violet ph change indicator
- Irregular shaped/sized granules for optimum packing
- High attrition resistance (low dust formation)

How it works:

Soda lime removes carbon dioxide (and other acidic contaminants) form gas streams via an exothermic, water facilitated, base catalysed chemical reaction. The Soda lime contains a carefully controlled level of water which aids the reaction. Water is also formed as a by-product of the reaction.

Specification of the soda lime:

The soda lime will undergo the following trials in order to guarantee acceptance for its use on-board submarine.

- i) Particle size analysis
- ii) Water content
- iii) Carbonating testing over the new product.
- iv) Dynamic testing of the Co₂ fixation.
- v) Static testing of the Co₂ fixation

The volume of Co₂ retained by the soda lime must be over 180 l/Kg of product.