

# **TECHNICAL NOTE RELATED TO MARKET SURVEY ON FIRST MIRROR STRATIFIED STRUCTURE SAMPLES**

## **1 INTRODUCTION TO ITER & FUSION FOR ENERGY**

The ITER project aims to build a fusion device, twice the size of the largest current devices, with the goal of demonstrating the scientific and technical feasibility of fusion power. It is a joint project between the European Union, China, India, Japan, South Korea, the Russian Federation and the USA. ITER is being built in Europe, at Cadarache in the south of France. The fusion reactor is expected to be ready for operation in 2025.

Most of the components that make up the ITER project are to be manufactured by each of the participating countries and contributed in kind through so-called Domestic Agencies including Fusion for Energy. In many cases the engineering and technologies required to manufacture these components are very advanced.

## **2 MARKET SURVEY**

This Market Survey is performed in prevision of a Call For Tender in order to identify potentially relevant and interested companies, as well as to check some of F4E assumptions. Please note that the answers to the Market Survey are confidential and do not constitute any kind of commitments from your company.

This Market Survey is performed by Market Analysis Group and the F4E Diagnostics Project Team as part of the development of First Mirror stratified structure.

### 3 SCOPE OF SUPPLY

The scope of supply of the foreseen contract includes:

- 1) Manufacturing of 3 (three) “small scale” samples and 1 (one) “full scale” sample under hereunder characteristics and size
- 2) Testing and results of tests as described hereunder

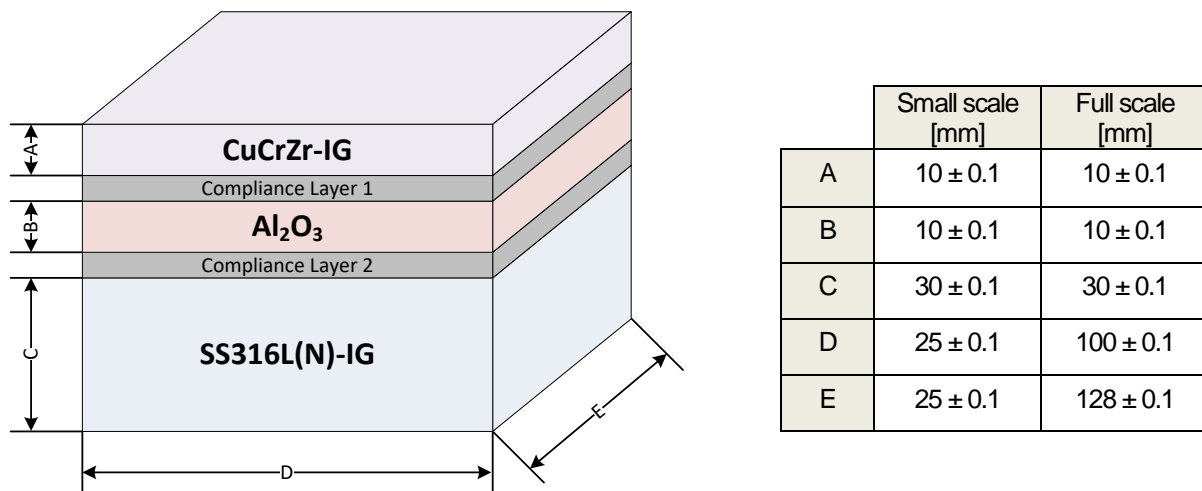


Figure 1. Samples stratified structure (left) and dimensions (right)

#### 1. Material joining:

- a. CuCrZr and SS shall be joined onto Al<sub>2</sub>O<sub>3</sub> by HIPing.

#### 2. Testing:

- a. Non-destructive testing: Visual & dimensional inspection and ultrasonic examination
- b. Mechanical testing: Tensile & shear
- c. Measurement of Electrical and thermal properties: Permittivity at 60 MHz and thermal conductivity (20 C and 100 C)

You can answer the market Survey by clicking [HERE](#)