

## Market survey

-Avviso ai sensi dell'art. 216 comma 9 D.Lgs. 50/2016 under italian law-

**OBJECT: Commitment of mechanical machining for preparation and mechanical characterization through fatigue LCF tests:**

The Politecnico di Torino DEPARTMENT of APPLIED SCIENCE AND TECHNOLOGY lets be known that it wants to commission:

- **LOTTO 1: mechanical machining for preparation of specimens made of Cobalt-Chrome alloys, produced by Politecnico di Torino, in view of their characterization through fatigue LCF tests.**
- **LOTTO 2: mechanical characterization (fatigue LCF tests) of specimens made of Cobalt-Chrome alloys produced by Politecnico di Torino.**

In order to contact as many as possible the interested suppliers and to obtain several quotes from them, it publishes this communication.

Information of this communication have only an approximate value and do not represent an obligation for Politecnico di Torino regarding interested suppliers, that cannot demand anything to Politecnico di Torino, with regard to this communication.

### 1. Description service

*technical requirements are described in the attached technical document*

### 2. Maximum costs

LOTTO 1 - EURO 20.000.000,00 VAT not included.  
LOTTO 2 - EURO 34.000.000,00 VAT not included.

### 3. Minimum requirements of economic/financial and technical/professional capabilities

*The interested supplier must possess:*

- requirements of Article. 80 of D. Lgs. no. 50/2016, implementing art. 57 EU directive 24/2014
- **suitability to pursue the professional activity;** *Contracting authorities may require economic operators to be enrolled in one of the professional or trade registers kept in their Member State of establishment, described in Annex XI directive 24/2014*
- **Professional and technical capabilities:**
  - LOTTO 1: *Valid GE S400 certification, P1TF79 CL-A, released by Ge Aviation;*
  - LOTTO 2: *Valid GE S400 certification (code 0Y), released by Ge Aviation*

#### 4. Due date

Within the day January 8, 2017, the suppliers with the above mentioned requirements interested to participate to the further negotiation for the equipment below would reply to this market survey sending a communication by email:

- Email Address: [procurement.tecnici@polito.it](mailto:procurement.tecnici@polito.it)
- OBJECT: the same subject of this advice
- Text of the communication:

*I undersigned \_\_\_\_\_, Fiscal code \_\_\_\_\_, on behalf of the company \_\_\_\_\_ - VAT ID, declare that our company is interested to participate to a further negotiation for the equipment in object.*

*I declare:*

- *To possess the requirements detailed in the art. 216, comma 9 del D. Lgs. 50/2016*
- *Not to pretend any fees from Politecnico di Torino replying to this market survey;*
- *I consent to the processing of my personal data, in accordance with the privacy laws D.Lgs. 30 giugno 2003, n. 196.*

#### 5. Further information

Clarifications and further technical information could be required only by email at the addresses [procurement.tecnici@polito.it](mailto:procurement.tecnici@polito.it)

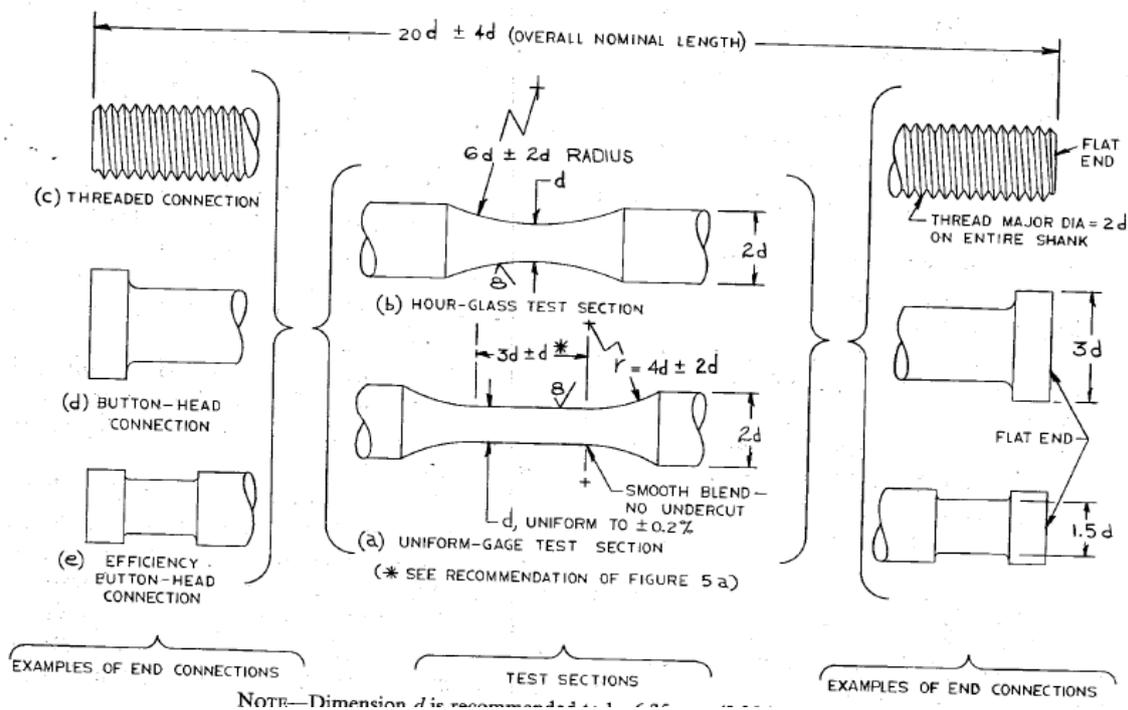
Torino, December 19, 2016

## TECHNICAL DOCUMENT – LOTTO 1

### Mechanical machining for preparation of specimens made of Cobalt-Chrome alloys, produced by Politecnico di Torino, in view of their characterization through fatigue LCF tests

Mechanical machining in view of fatigue LCF tests must be carried out according to the following requirements, indispensable for the evaluation of the quote and without which the quote will be excluded:

- Starting from as-prepared specimens, realized by Politecnico di Torino, having dimensions of about 4.1"x0.6"x0.6" (corresponding to 104x15x15 mm), each machining must produce specimens having geometrical features indicated in the **ASTM E606** standard with a diameter of 0.2" and the following characteristics:



- Each machining must be carried out following the above-described procedure:
  1. Machining of the gage section must be carried out with a continuous treatment, with the entrance of the machining tool from one side and exit from the other side. It is forbidden the detaching of the machining tool within the gage section;
  2. Maintain holes at the end of machining;
  3. Indicate specimen code on cylindrical threaded section of the specimen, if supplied;
  4. For machining the gage section:
    - Machining up to a radial oversize of 0.5 mm;
    - Continue machining up to a radial oversize of 0.1 mm through subsequent treatments with maximum depth of 0.15 mm;
    - Continue machining up to a radial oversize of 0.03 mm through cylindrical grinding with maximum depth per step of 0.005 mm/step;
    - Reach the exact dimensions through manual lengthwise polishing.

- At the moment, we suppose to test 200 specimens, in particular

Material	N° specimens
Cobalt-Chrome alloy	200

with different machining campaigns according to our needs; each campaign could consist in machining of minimum 30 and maximum 120 specimens;

- For each campaign, it is necessary to machining and to send machined specimens in times compatible with the following formula

$$(N^{\circ} \text{ specimens} \times 8 \text{ hours for machining}) + 5 \text{ days for shipping};$$

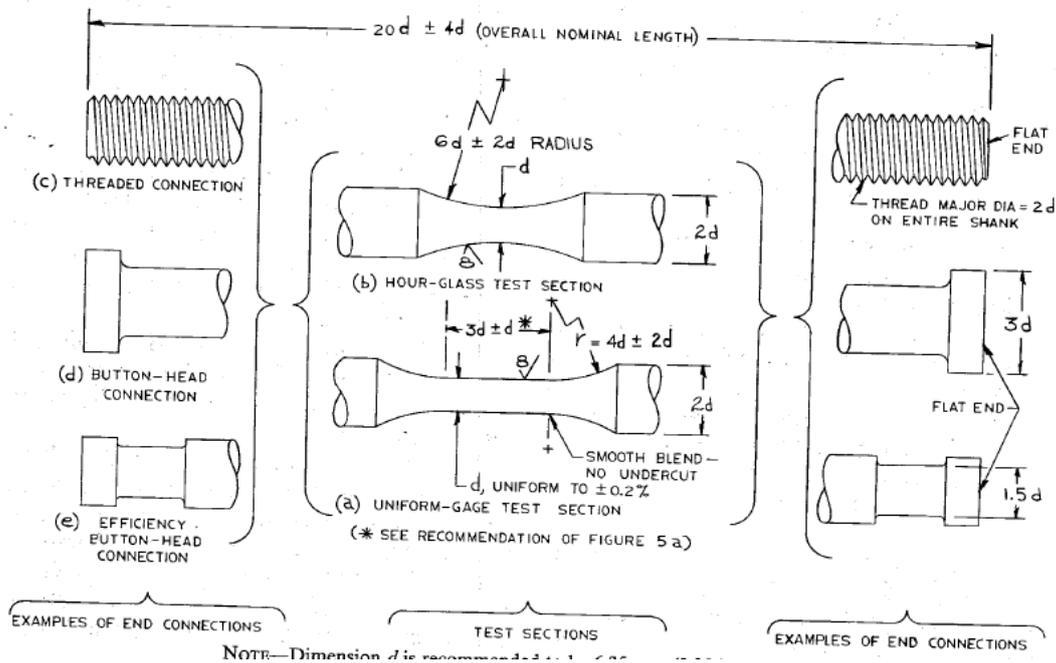
- For machining of one specimen a cost of 100 € (VAT not included) is estimated;
- Machining must be carried out only by laboratories with GE S400 certification, P1TF79 CL-A, released by Ge Aviation and valid at the moment of the quote.

## TECHNICAL DOCUMENT – LOTTO 2

### Mechanical characterization through strain controlled LCF tests of specimens made of Cobalt-Chrome alloys prepared by Politecnico di Torino

Mechanical characterization through tensile tests must be carried out according to the following requirements, indispensable for the evaluation of the quote and without which the quote will be excluded:

- Each strain controlled LCF test must be carried out a room temperature, according to **ASTM E606** standard, on specimens prepared by Politecnico di Torino having geometrical features indicated in the **ASTM E606** standard with a diameter of 0.2” and the following characteristics:



- At the end of each test campaign, for each LCF test, recorded data and specimens after test must be delivered;
- At the moment, we suppose to test 200 specimens, in particular

Material	N° specimens
Cobalt-Chrome alloy	200

with different test campaigns according to our needs; each test campaign could consist in tensile tests of minimum 30 and maximum 120 specimens;

- For each campaign, it is necessary to test (considering a mean cycle number of 30.000 cycles) and to send results and specimens after test in times compatible with the following formula

$$(\text{N}^\circ \text{ specimens} \times 15 \text{ hours for test}) + 5 \text{ days for shipping};$$

- For each LCF test of one specimen a cost of 170 € (VAT not included) is estimated;

- Tensile tests must be carried out only by laboratories with GE S400 certification (particularly, code 0Y), released by Ge Aviation and valid at the moment of the quote.