Si richiede la quotazione per la realizzazione delle parti di seguito descritte:

Dis. N°:
ESS-AT-02.02.00 (Complessivo)
ESS-AT-02.02.01 (Particolari)

La fornitura deve comprendere **SOLO**:
- la realizzazione delle pos. 2-3-4 (N°1 pezzo per ognuna)
- le posizioni 17-18-19 (N° 2 pezzi per ognuna)
- le parti unificate pos. 7-9-10-11-14-15 materiale A4 (viti, rondelle, dadi ecc.)
  (quantità come da tavola)

Descrizione:
Raccorderia da vuoto, parte alta flangiata CF63 e bassa CF40
Materiali come da tavole allegate.
Technical Specification

No.: Vacuum 002/2008
Version 1.2 / 07.11.2008

Forged blanks made of Material
1.4429 / ESU (316LN / ESR)
(Vacuum Applications)

FS-BT and MVS
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1. **Introduction**

The aim of this material specification is to determine a suitable iron and steel works technology and to define an adequate manufacturing process matching the criteria as required in paragraph 4. for products applied in UHV-technology. It is mandatory for this process to include an electro-slag remelting process with the supplement **forged multidirectionally / solution-annealed**!

2. **Applied Standards**

   - DIN EN 10088-1-2-3:2005 Stainless steels
   - DIN EN 10204:2005-01 Metallic products: Types of inspection documents
   - DIN 50602 Microscopic examinations of stainless steels for non-metallic inclusions

3. **Material Properties**

   - **Material No.:** 1.4429 **ESU** DIN EN 10088-1-2-3 (US standard 316 LN **ESR**)
     **ESR** = Electro-Slag-Remelting
     **forged multidirectionally / solution-annealed**

   - **Material test:** APZ 3.1 inspection certificate according to DIN EN 10204

   - **Special restrictions:** The following elements are restricted in deviation from the material standard mentioned above:
     - Si $\leq 0.50 \%$
     - P $\leq 0.03 \%$
     - S $\leq 0.005 \%$
     - N $= 0.15 – 0.22 \%$
     - Ni $\geq 12.0 \%$
Structure: After solution annealing the structure shall be completely austenitic. In accordance with the standard ASTM E112-96 (2004), the grain size shall be between 3 and 4.

Inclusions: Non-metallic inclusions according to DIN 50602 - K1 ≤ 2.0

Mechanical properties: At room temperature, after solution annealing:
- Tensile Strength \( R_m \) ≥ 600 N/mm\(^2\)
- Yield stress \( R_{p0.2} \) ≥ 300 N/mm\(^2\)
- Breaking elongation \( A_s \) ≥ 35 %
- Brinell Hardness \( HB \) = 160-200

Magnetic properties: The relative magnetic permeability after solution annealing and at room temperature shall be \( \mu_{rel} \leq 1.005 \) at 1000 Oe.

4. Labeling

Each blank shall be marked with the following label (chemically engraved or impact stamped):

- Serial number (with reference to material report).
- Name of supplier.
- Material number with annex DESY (example: DESY/1.4429/ESU).
- Delivery date in the format month/year (example: 03/08).

5. Documents

The supplier needs to provide each delivery with written documents for the analysis of the material, the structure and inclusions as described in paragraph 3. All documents provided have to conform to the actual standards.
Technical Specification

No.: Vacuum 002/2008
Version 1.2 / 07.11.2008

Forged blanks made of Material
1.4435 / ESU (316L / ESR)
(Vacuum Applications)

FS-BT and MVS
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1. Introduction

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2. Applied Standards

DIN EN 10088-1-2-3:2005 Stainless steels

DIN EN 10204:2005-01 Metallic products: Types of inspection documents


DIN 50602 Microscopic examinations of stainless steels for non-metallic inclusions

3. Material Properties

Material No.: 1.4435 ESU DIN EN 10088-1-2-3

(US standard 316 L ESR)

ESR = Electro-Slag-Remelting

forged multidirectionally / solution-annealed

Material test: APZ 3.1 inspection certificate according to DIN EN 10204

Special restrictions: None

Structure: After solution annealing the structure shall be completely austenitic. In accordance with the standard ASTM E112-96 (2004), the grain size shall be between 3 and 4.
Inclusions: Non-metallic inclusions according to DIN 50602 - K1 ≤ 2.0

Mechanical properties: At room temperature, after solution annealing:
- Tensile Strength \( R_m \geq 600 \text{ N/mm}^2 \)
- Yield stress \( R_{p0.2} \geq 300 \text{ N/mm}^2 \)
- Breaking elongation \( A_s \geq 35\% \)
- Brinell Hardness \( HB = 160-200 \)

Magnetic properties: The relative magnetic permeability after solution annealing and at room temperature shall be \( \mu_{rel} \leq 1.005 \) at 1000 Oe.

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