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CONSUMABLE SPECIFICATIONS DOCUMENT

IMO rotative targets for MS-PVD equipment

EOTP	AMACPVG06ADD
OS	LOC7N6SBINES
Platform	Plateforme CELLULES

	Name	Function	Signature / Date
Written by	Jay Frédéric	Process engineer	JAY Frédéric Signature numérique de JAY Frédéric Date : 2026.11.03 11:09:14 +01'00'
Checked by Plateform	Crayes Pierre	Platform Manager	CRAYES Pierre 217037 Signature numérique de CRAYES Pierre 217037 Date : 2026.11.03 12:46:53 +01'00'
Checked by Management	Favre Wilfried	Head Of Laboratory	FAVRE Wilfried 232490 Signature numérique de FAVRE Wilfried 232490 Date : 2026.11.03 14:27:02 +01'00'
Issued by	Duca David	Head of Department	DUCA, David Signé numériquement Le 04/11/2026

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Document Revision Table

Version	Date	Evolution description
A	03/11/2026	Creation

Purchasing Department	- SMA Manager	1 copy (email)
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	- Safety Engineer	1 copy (email)
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1. PURPOSE

This specification document defines the supply, on behalf of the CEA, of an Item designated as Transparent Conductive Oxide (TCO) rotative target for Magnetron Sputtering-Physical Vapor Deposition (MS-PVD).

2. DEFINITION

In this document, the contractor is referred to as “the supplier”.

The instructing party is referred to as “CEA”.

3. GLOSSARY

- TCO : Transparent conductive Oxide
- IMO : Indium Oxide / Metal oxide(s)
- MS-PVD : Magnetron Sputtering-Physical Vapor Deposition
- LITEN : Laboratoire d’Innovation pour les Technologies des Energies Nouvelles et les nanomatériaux
- INES : Institut National de l’Energie Solaire (Bourget du Lac site)

4. APPLICABLE DOCUMENTS

Target drawing available in appendix 1 **Erreur ! Source du renvoi introuvable.**.

5. INTERFACE CLIENT – PRESTATAIRE

The technical contacts for the basic and additional services are:

Mr-: JAY Frederic .....

Tel.: +33(4) 79 79 28 82

Email: Frederic.jay@cea.fr

6. CONFIDENTIALITY

The supplier undertakes to keep confidential and shall refrain from disclosing to any third party, without written approval from CEA, the whole or part of information and/or knowledge belonging to CEA or any third party, that it may obtain or may have obtained during the service performed on behalf of CEA

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7. TECHNICAL SPECIFICATIONS

The supplier have to provide IMO rotative targets for MS-PVD.
The material characteristics are the following :

- IMO 4N (99,99%) with density >99% of the theorical value
- Dimensions L1323,4 X ID 135 / OD155mm

A drawing of the target is presented in appendix 1

CEA requests an offer for 2 (two) targets.

Mandatory option :

The supplier have to propose two separate quotations :

- One including the cost of material bonding onto new backing tube.
- One including the cost of material bonding onto used backing tube with used TCO target. In this case, CEA will provide the backing tube to the supplier. And the supplier will subtract the price of the debounded material to the final price.
-

7.1. Description of the main function

The targets will be installed in a MS-PVD equipment and will be used to deposit the material from which it is made onto a substrate.

7.2. Expected performances

P*roposed* material allow to reach the following opto-electrical properties (for thickness between 50 to 150 nm):

	resistivity (mOhm.cm)	Mobility ($cm^2/(V.s)$)	Carrier concentration (cm^{-3})	Transmission 300-1200nm (%)
Minimum	no min	40	1e20	80
maximum	0.70	No max	3e20	100

7.3. Specifications

The dimensions of the targets and backing tubes must correspond to those specified in the target drawing (appendix1)

TCO material have to compounded of 98-99%w of Indium Oxide and 0-2% of one or more other metal oxide.

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8. WORK ENVIRONMENT, INSTALLATION LOCATION, LIMITS OF SERVICE

8.1. Delivery

Delivery and Installation Organization

For the proper organization of delivery and installation at CEA, a packing list must be communicated to CEA before the delivery. This list should include the following information:

- The total net weight of the shipment.
- The number of packages for transporting the equipment.
- The weight and dimensions (length × width × height) of each package.
- The weight and dimensions (length × width × height) of each target.

Delivery Location

The item must be delivered at the CEA-INES, Le Bourget-du-lac (France) site in the Ecureuil building (clean room entrance).

Delivery Hours

Deliveries will be made between 8:00 AM and 4:00 PM from Monday to Friday.

9. ITEM/MATERIAL DOCUMENTATION

The supplier undertakes to provide:
- Data sheet of the material for both target including compositional characteristic, measurements of impurity, dimension of the target (and Backing tube if necessary)
- Safety data sheet (SDS)

10. ACCEPTANCE CONDITIONS

10.1. Acceptance criteria

Acceptance will be granted if:

- The supplier provide the certificate of analysis for each target including :

- Measurement dimensions (ID, OD, ITO length, density, number of segment and their length,…)
- Impurities measurements

- No target breakage id observed
- the target dimensions measured onsite target reception correspond to the specifications

11. WARRANTY

The supplier has to guarantee a consumption of the material thickness until 80% (=0.8*(OD-ID) without excessive local engraving.

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12. ELEMENTS TO PROVIDE IN RESPONSE TO THE CONSULTATION

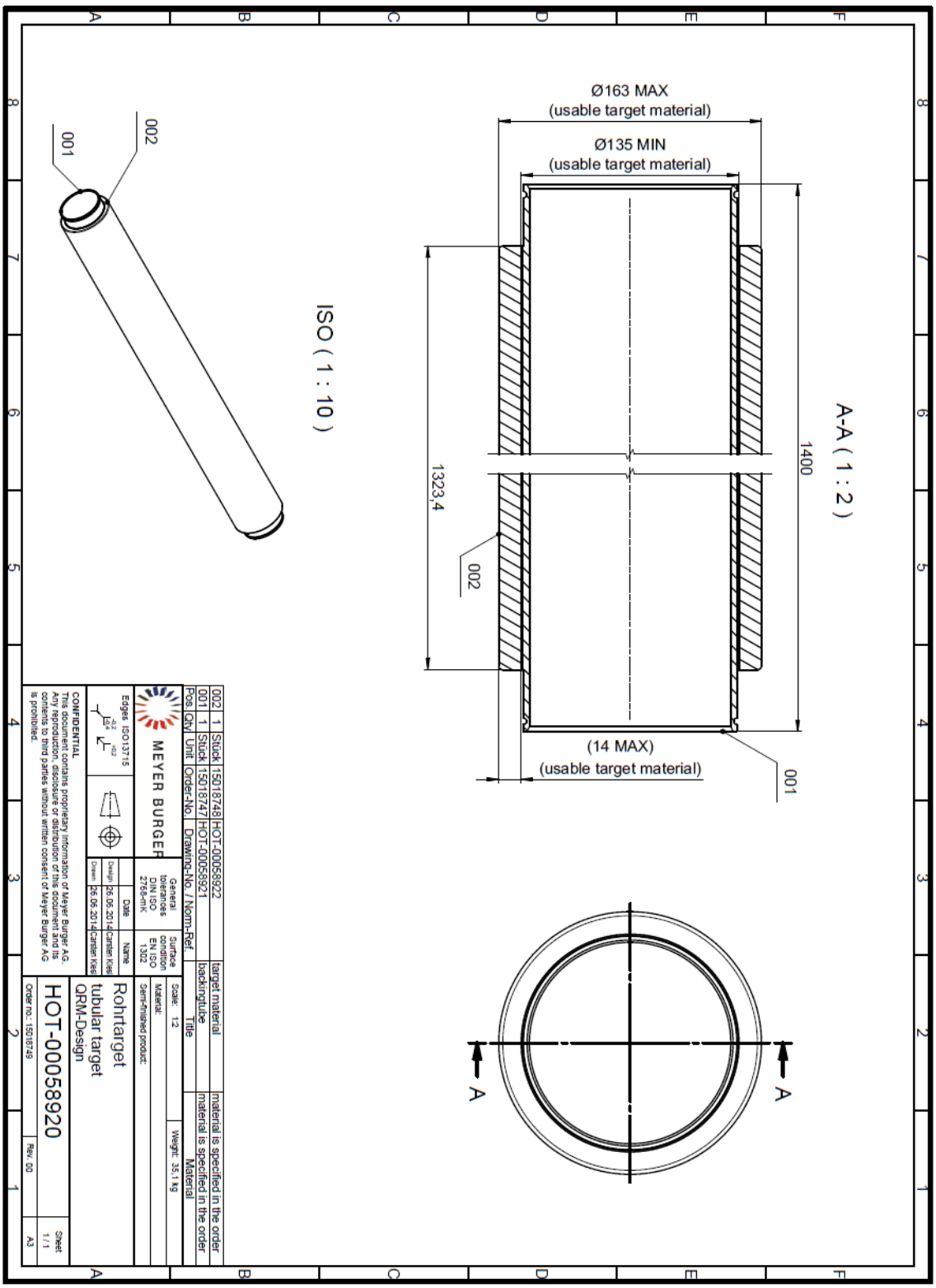
Target drawing (refer to § Appendix 1).

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APPENDIXES

Appendix 1 : Target Drawing

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Ø163 MAX
(usable target material)
Ø135 MIN
(usable target material)
1400
1323,4
002
001
(14 MAX)
(usable target material)
A-A (1 : 2)
ISO (1 : 10)
002
001
A
A
002 1 Stück 15018748 HOT-00058922 target material
001 1 Stück 15018747 HOT-00058921 backingtube
Pos Qty Unit Order-No. Drawing-No. / Norm-Ref. Title
material is specified in the order
material is specified in the order
Material
MEYER BURGER
Edges ISO 13715
Surface condition EN ISO 1302
General tolerances DIN ISO 2768-mK
Name
Date
Design Carsten Kisel 26.06.2014
Drawn Carsten Kisel 26.06.2014
Scale: 1:2
Material:
Semi-finished product:
Weight: 35,1 kg
Rohrtarget
tubular target
QRM-Design
HOT-00058920
Order no.: 15018749
Rev. 00
Sheet 1 / 1
A3
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