



Provisions on PVD / CVD Coatings on Precious Metals Articles

Definition

Coatings applied in the gas phase are known under the abbreviations PVD (physical vapour deposition) and CVD (chemical vapour deposition). PVD and CVD coatings are usually composed of one or more metals combined with one or more non-metals such as N (nitrogen), O (oxygen) or C (carbon). They are especially hard, chemically resistant and may have any colour.

Provisions

Precious metals articles may be coated with PVD and CVD if certain conditions are respected. The relevant dispositions can be found in the following documents:

- a) Instructions about the application of the precious metals legislation (PMCI¹), cipher 1.4
- b) Decisions on Technical Matters of the Convention on the Control and Marking of Articles of Precious Metals (Decisions on Technical Matters²), cipher 2.6

PVD and CVD coatings are not automatically accepted. Due to the specific requirements that must be fulfilled in order to claim conformity, the Central Office requires a prior examination of the product (conformity assessment).

The following requirements must be fulfilled so that PVD and CVD can be applied on precious metals articles:

- Coating and substrate (precious metal alloy) must be of different colours.
- The colour of the coating must be different from any other precious metal or a precious metal alloy in order to prevent confusions.
- There shall be no forbidden interlayer between coating and substrate.
- The coating must be of non-metallic nature.
- The fineness of coated precious metals articles (substrate + coating) must, when chemically tested, not fail the legal fineness standard.
- The required marks for precious metals articles (responsibility mark, standard of fineness mark, the Swiss official hallmark and the Common Control Mark) must be legible on entirely coated articles.

¹ Dispositions in the PMCI are decisive for Swiss controlling and official hallmarking.
<http://www.ezv.admin.ch/dienstleistungen/04062/04938/index.html?lang=en>

² For hallmarking using the Common Control Mark of the Vienna Convention, the Decisions on Technical Matters are applied too. (<http://www.hallmarkingconvention.org/documents.php>)

Authorization by Central Office

A manufacturer, who wants his PVD or CVD coated articles to be officially controlled and marked, must submit a request to the Central Office for a conformity assessment.

This request shall contain the following indications:

- The description of the coating
- Planned plating proportion (complete or partial coating of the article)
- The chemical composition of all coatings (PVD/CVD and interlayers)
- Typical and maximal coating's thickness
- Planned substrate (precious metal alloy, chemical composition and supplier's denomination)

A sample must be enclosed with the request. This sample must be made up of exactly the same coatings (PVD/CVD and interlayers) and the same substrate (precious metal alloy) as the articles which shall be marked.

This sample will be used for chemical-physical tests und could be thereby destroyed.

Adequate requests must be sent to:

Central office for precious metals control
Monbijoustrasse 40
3003 Berne
Switzerland