



Requirements on PVD / CVD Coatings on Precious Metals Articles

Definition

Coatings applied in the gas phase are known under the abbreviations of PVD (physical vapor deposition) and CVD (chemical vapor 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 color.

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) R-243 « Instructions about the application of the precious metals legislation (PMCI¹), cipher 1.6.1 and 7.3
- b) Decisions on Technical Matters of the Convention on the Control and Marking of Articles of Precious Metals (Decisions on Technical Matters²), cipher 2.7

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 testing).

The following conditions are required to apply a PVD or CVD coating to precious metal 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.
- On the entirely coated articles, the required marks for precious metals articles (responsibility mark, standard of fineness mark, the Swiss official hallmark and the Common Control Mark) must remain clearly legible.

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 from the Central Office

Within the framework of official control and hallmarking, service providers who wish to offer their customers authorised PVD/CVD coatings, as well as manufacturers of articles or watch cases using this type of coating, must submit them to the Central Office for conformity assessment beforehand.

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. The coating must be made of exactly the same composition (manufacturing process, thickness, composition, possible use of interlayers) as the articles, which shall be marked.

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

The conformity testing of coatings is subject to a fee set out in point 8.12 of the Annex to the Ordinance on the Fees for Precious Metals Control³ (PMC-FeeO; SR 941.319).

Conformity assessment requests must be sent to:

Central office for precious metals control
Industriestrasse 37
2555 Brugg
Switzerland

Federal Customs Administration FCA
Central office for precious metals control
Industriestrasse 37, 2555 Brugg
www.ezv.admin.ch

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³ All fees charged by the Precious Metals Control Office are set out in the Ordinance on the Fees for Precious Metals Control : [RS 941.319 - Ordinance of 6 November 2019 on the Fees for Precious Metal Control \(PMC-FeeO\) \(admin.ch\)](#)