

2. Time and sequence of cleaning cycle after grit blast;
3. Surface finish parameters;
- e. Masking technique parameters, as follows:
  1. Material of mask;
  2. Location of mask;
2. Technology for *in situ* quality assurance techniques for evaluation of the coating processes listed in the Table, as follows:
  - a. Atmosphere parameters, as follows:
    1. Composition of the atmosphere;
    2. Pressure of the atmosphere;
  - b. Time parameters;
  - c. Temperature parameters;
  - d. Thickness parameters;
  - e. Index of refraction parameters;
3. Technology for post deposition treatments of the coated substrates listed in the Table, as follows:
  - a. Shot peening parameters, as follows:
    1. Shot composition;
    2. Shot size;
    3. Shot velocity;
  - b. Post shot peening cleaning parameters;
  - c. Heat treatment cycle parameters, as follows:
    1. Atmosphere parameters, as follows:
      - a. Composition of the atmosphere;
      - b. Pressure of the atmosphere;
    2. Time-temperature cycles;
  - d. Post heat treatment visual and macroscopic criteria for acceptance of the coated substrates;
4. Technology for quality assurance techniques for the evaluation of the coated substrates listed in the Table, as follows:
  - a. Statistical sampling criteria;
  - b. Microscopic criteria for:
    1. Magnification;
    2. Coating thickness uniformity;
    3. Coating integrity;
    4. Coating composition;
    5. Coating and substrates bonding;
    6. Microstructural uniformity.
  - c. Criteria for optical properties assessment:
    1. Reflectance;
    2. Transmission;
    3. Absorption;
    4. Scatter;
5. Technology and parameters related to specific coating and surface modification processes listed in the Table, as follows:
  - a. For Chemical Vapour Deposition:
    1. Coating source composition and formulation;
    2. Carrier gas composition;
    3. Substrate temperature;
    4. Time-temperature-pressure cycles;
    5. Gas control and part manipulation;
  - b. For Thermal Evaporation - Physical Vapour Deposition:
    1. Ingot or coating material source composition;
    2. Substrate temperature;
    3. Reactive gas composition;
    4. Ingot feed rate or material vaporisation rate;
    5. Time-temperature-pressure cycles;
    6. Beam and part manipulation;
    7. "Laser" parameters, as follows:
      - a. Wave length;
      - b. Power density;
      - c. Pulse length;
      - d. Repetition ratio;
      - e. Source;
      - f. Substrate orientation;
  - c. For Pack Cementation:
    1. Pack composition and formulation;
    2. Carrier gas composition;
    3. Time-temperature-pressure cycles;
  - d. For Plasma Spraying:
    1. Powder composition, preparation and size distributions;
    2. Feed gas composition and parameters;
    3. Substrate temperature;
    4. Gun power parameters;
    5. Spray distance;
    6. Spray angle;

7. Cover gas composition, pressure and flow rates;
8. Gun control and part manipulation;
- e. For Sputter Deposition:
  1. Target composition and fabrication;
  2. Geometrical positioning of part and target;
  3. Reactive gas composition;
  4. Electrical bias;
  5. Time-temperature-pressure cycles;
  6. Triode power;
  7. Part manipulation;
- f. For Ion Implantation:
  1. Beam control and part manipulation;
  2. Ion source design details;
  3. Control techniques for ion beam and deposition rate parameters;
  4. Time-temperature-pressure cycles.
- g. For Ion Plating:
  1. Beam control and part manipulation;
  2. Ion source design details;
  3. Control techniques for ion beam and deposition rate parameters;
  4. Time-temperature-pressure cycles;
  5. Coating material feed rate and vaporisation rate;
  6. Substrate temperature;
  7. Substrate bias parameters.

#### NOTES:

1. Governments may permit, as administrative exceptions, the shipment to the Czech Republic, Poland, and Slovak Republic of everything embargoed by this Category, *except*:
  - a. "Numerical control" units, "numerically controlled" machine tools with a positioning accuracy of 2 micrometres or better, and components, specially designed parts or assemblies therefor, embargoed by 1022.1, 1022.8. or 1022.9.;
  - b. Non-"numerically controlled" machine tools for generating optical quality surfaces embargoed by 1022.2.;
  - c. Equipment specially designed for the deposition, processing and in-process control of inorganic overlays, coatings and surface modifications embargoed by 1022.5;
  - d. Coating technology for non-electronic devices embargoed by 1025.3.d.;
  - e. "Software" specially designed and technology "required" for the equipment described in a., b. or c. above, embargoed by 1024 or 1025.
2. Governments may permit, as administrative exceptions, the shipment to the People's Republic of China of machine tools for milling embargoed by 1022.1.c.1. to civil end-users other than nuclear and aerospace, provided they are not embargoed by 1022.1.c.1.b.1, b.4., b.5. or b.6.
3. Governments may permit, as administrative exceptions, the shipment of equipment embargoed by 1022.6.b.1. to civil end-users not engaged in aerospace or nuclear activities.
4. The Committee will favourably consider the export to the Czech Republic, Poland, and Slovak Republic of non-"numerically controlled" machine tools for generating optical quality surfaces embargoed by Category 1022.2., and "software" specially designed and technology "required" therefor embargoed by 1024 or 1025. The Committee will approve exception requests tabled under the provisions of this Note if no member country has filed an objection within four weeks of the receipt of complete information on the case.
5. The Committee will favourably consider the export of turning machines embargoed by 1022.1.c.1. provided:
  - a. They are not intended for use in nuclear related activities; *and*
  - b. They have all of the following characteristics:
    1. Only two axes which can be coordinated simultaneously for "contouring control";
    2. The positioning accuracy, with all compensations available, is not less (not better) than 0.002 mm per 300 mm of travel;
    3. Geometric alignment of the axes, parallel or perpendicular to each other, is not less (not better) than 0.001 mm per 300 mm of travel;
    4. Slide travel in both axes is not longer than 400 mm;
    5. "Run out" (out-of-true running) in one revolution of the spindle is more (worse) than 0.0004 mm TIR; *and*
    6. "Camming" (axial displacement) in one revolution of the spindle is more (worse) than 0.0004 mm TIR.