

a. Filament winding machines of which the motions for positioning, wrapping and winding fibers are coordinated and programmed in three or more axes, specially designed for the manufacture of "composite" structures or laminates from "fibrous or filamentary materials";

b. Tape-laying or tow-placement machines of which the motions for positioning and laying tape, tows or sheets are coordinated and programmed in two or more axes, specially designed for the manufacture of "composite" airframe or "missile" structures;

c. Multidirectional, multidimensional weaving machines or interlacing machines, including adapters and modification kits, for weaving, interlacing or braiding fibers to manufacture "composite" structures;

Technical Note: For the purposes of 1B001.c the technique of interlacing includes knitting.

Note: 1B001.c does not control textile machinery not modified for the above end-uses.

d. Equipment specially designed or adapted for the production of reinforcement fibers, as follows:

d.1. Equipment for converting polymeric fibers (such as polyacrylonitrile, rayon, pitch or polycarbosilane) into carbon fibers or silicon carbide fibers, including special equipment to strain the fiber during heating;

d.2. Equipment for the chemical vapor deposition of elements or compounds on heated filamentary substrates to manufacture silicon carbide fibers;

d.3. Equipment for the wet-spinning of refractory ceramics (such as aluminum oxide);

d.4. Equipment for converting aluminum containing precursor fibers into alumina fibers by heat treatment;

e. Equipment for producing prepreps controlled by 1C010.e by the hot melt method;

f. Non-destructive inspection equipment capable of inspecting defects three dimensionally, using ultrasonic or X-ray tomography and specially designed for "composite" materials.

■ 10. In Supplement No. 1 to part 774 (the Commerce Control List), Category 1—Materials, Chemicals, Microorganisms, and Toxins, Export Control Classification Number (ECCN) 1C006 is amended by revising the *items* paragraph in the List of Items Controlled section, to read as follows:

1C006 Fluids and lubricating materials, as follows (see List of Items Controlled).

* * * * *

List of Items Controlled

Unit: * * *

Related Controls: * * *

Related Definitions: * * *

Items:

a. Hydraulic fluids containing, as their principal ingredients, any of the following compounds or materials:

a.1. Synthetic silahydrocarbon oils, having all of the following:

Technical Note: For the purpose of 1C006.a.1, silahydrocarbon oils contain exclusively silicon, hydrogen and carbon.

a.1.a. A flash point exceeding 477 K (204 °C);

a.1.b. A pour point at 239 K (< − 34 °C) or less;

a.1.c. A viscosity index of 75 or more; and

a.1.d. A thermal stability at 616 K (343 °C); or

a.2. Chlorofluorocarbons, having all of the following:

Technical Note: For the purpose of 1C006.a.2, chlorofluorocarbons contain exclusively carbon, fluorine and chlorine.

a.2.a. No flash point;

a.2.b. An autogenous ignition temperature exceeding 977 K (704 °C);

a.2.c. A pour point at 219 K (− 54 °C) or less;

a.2.d. A viscosity index of 80 or more; and

a.2.e. A boiling point at 473 K (200 °C) or higher;

b. Lubricating materials containing, as their principal ingredients, any of the following compounds or materials:

b.1. Phenylene or alkylphenylene ethers or thio-ethers, or their mixtures, containing more than two ether or thio-ether functions or mixtures thereof; or

b.2. Fluorinated silicone fluids with a kinematic viscosity of less than 5,000 mm²/s (5,000 centistokes) measured at 298 K (25 °C);

c. Damping or flotation fluids with a purity exceeding 99.8%, containing less than 25 particles of 200 μm or larger in size per 100 ml and made from at least 85% of any of the following compounds or materials:

c.1. Dibromotetrafluoroethane;

c.2. Polychlorotrifluoroethylene (oily and waxy modifications only); or

c.3. Polybromotrifluoroethylene;

d. Fluorocarbon electronic cooling fluids, having all of the following characteristics:

d.1. Containing 85% by weight or more of any of the following, or mixtures thereof:

d.1.a. Monomeric forms of perfluoropolyalkylether-triazines or perfluoroaliphatic-ethers;

d.1.b. Perfluoroalkylamines;

d.1.c. Perfluorocycloalkanes; or

d.1.d. Perfluoroalkanes;

d.2. Density at 298 K (25 °C) of 1.5 g/ml or more;

d.3. In a liquid state at 273 K (0 °C); and

d.4. Containing 60% or more by weight of fluorine.

Technical Note: For the purpose of 1C006:

a. Flash point is determined using the Cleveland Open Cup Method described in ASTM D-92 or national equivalents;

b. Pour point is determined using the method described in ASTM D-97 or national equivalents;

c. Viscosity index is determined using the method describe in ASTM D-2270 or national equivalents;

d. Thermal stability is determined by the following test procedure or national equivalents:

Twenty ml of the fluid under test is placed in a 46 ml type 317 stainless steel chamber containing one each of 12.5 mm (nominal) diameter balls of M-10 tool steel, 52100 steel and naval bronze (60% Cu, 39% Zn, 0.75% Sn);

The chamber is purged with nitrogen, sealed at atmospheric pressure and the temperature raised to and maintained at 644 ± 6 K (371 ± 6 °C) for six hours;

The specimen will be considered thermally stable if, on completion of the above procedure, all of the following conditions are met:

1. The loss in weight of each ball is less than 10 mg/mm² of ball surface;

2. The change in original viscosity as determined at 311 K (38 °C) is less than 25%; and

3. The total acid or base number is less than 0.40;

e. Autogenous ignition temperature is determined using the method described in ASTM E-659 or national equivalents.

Category 2—Materials Processing

■ 11. In Supplement No. 1 to part 774 (the Commerce Control List), Category 2—Materials Processing, Export Control Classification Number (ECCN) 2B006 is amended by removing the *ECCN Controls* paragraph and revising the *items* paragraph in the List of Items Controlled section, to read as follows:

2B006 Dimensional inspection or measuring systems and equipment, as follows (see List of Items Controlled).

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List of Items Controlled

Unit: * * *

Related Controls: * * *

Related Definitions: * * *

Items:

a. Computer controlled, "numerically controlled" or "stored program controlled" co-ordinate measuring machines (CMM), having a three dimensional length (volumetric) maximum permissible error of indication (MPE_E) at any point within the operating range of the machine (*i.e.*, within the length of axes) equal to or less (better) than (1.7 + L/1,000) μm (L is the measured length in mm) tested according to ISO 10360-2 (2001);

b. Linear and angular displacement measuring instruments, as follows:

b.1. Linear displacement measuring instruments having any of the following:

Technical Note: For the purpose of 2B006.b.1 "linear displacement" means the