

1011.4.c. con't.

of biological agents or radioactive materials "adapted for use in war" or chemical warfare (CW) agents and specially designed components therefor.

Note:

Item 1011.4 does not control:

- a. Personal radiation monitoring dosimeters;
- b. Equipment limited by design or function to protect against hazards specific to civil industries, such as mining, quarrying, agriculture, pharmaceuticals, medical, veterinary, environmental, waste management, or to the food industry.

N.B.:

Also see Item 2007. on Munitions List.

- 5. Body armour, and specially designed components therefor, not manufactured to military standards or specifications, nor to their equivalents in performance.

Note 1:

Item 1011.5. does not control individual suits of body armour and accessories therefor, when accompanying their users for his/her own personal protection.

Note 2:

Item 1011.5. does not control body armour designed to provide frontal protection only from both fragment and blast from non-military explosive devices.

N.B.:

Also see Item 2013. on Munitions List.

1012. Test, Inspection and Production Equipment

- 1. Equipment for the production of fibres, prepreps, preforms or "composites" controlled by 1011.2. or 1013.10., as follows, and specially designed components and accessories therefor:
 - a. Filament winding machines of which the motions for positioning, wrapping and winding fibres 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 fibres to manufacture "composite" structures;

Note:

Item 1012.1.c. does not control textile machinery not modified for the above end-uses.

- d. Equipment specially designed or adapted for the production of reinforcement fibres, as follows:
 - 1. Equipment for converting polymeric fibres (such as polyacrylonitrile, rayon, pitch or polycarbosilane) into carbon fibres or silicon carbide fibres, including special equipment to strain the fibre during heating;
 - 2. Equipment for the chemical vapour deposition of elements or compounds on heated filamentary substrates to manufacture silicon carbide fibres;
 - 3. Equipment for the wet-spinning of refractory ceramics (such as aluminium oxide);
 - 4. Equipment for converting aluminium containing precursor fibres into alumina fibres by heat treatment;
- e. Equipment for producing prepreps controlled by 1013.10.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.
- 2. Systems and components therefor, specially designed to avoid contamination and specially designed for producing metal alloys, metal alloy powder or alloyed materials controlled by 1013.2.a.2., 1013.2.b. or 1013.2.c.
- 3. Tools, dies, moulds or fixtures, for "superplastic forming" or "diffusion bonding" titanium or aluminium or their alloys, specially designed for the manufacture of:
 - a. Airframe or aerospace structures;
 - b. "Aircraft" or aerospace engines; or
 - c. Specially designed components for those structures or engines.

1013. Materials

Technical Note:

Metals and alloys

Unless provision to the contrary is made, the words 'metals' and 'alloys' cover crude and semi-fabricated forms, as follows:

Crude forms

Anodes, balls, bars (including notched bars and wire bars), billets, blocks, blooms, brickets, cakes, cathodes, crystals, cubes, dice, grains, granules, ingots, lumps, pellets, pigs, powder, rondelles, shot, slabs, slugs, sponge, sticks;

Semi-fabricated forms (whether or not coated, plated, drilled or punched):

- a. Wrought or worked materials fabricated by rolling, drawing, extruding, forging, impact extruding, pressing, graining, atomising, and grinding, i.e.: angles, channels, circles, discs, dust, flakes, foils and leaf, forging, plate, powder, pressings and stampings, ribbons, rings, rods (including bare welding rods, wire rods, and rolled wire), sections, shapes, sheets, strip, pipe and tubes (including tube rounds, squares, and hollows), drawn or extruded wire;
- b. Cast material produced by casting in sand, die, metal, plaster or other types of moulds, including high pressure castings, sintered forms, and forms made by powder metallurgy.

The object of the control should not be defeated by the export of non-listed forms alleged to be finished products but representing in reality crude forms or semi-fabricated forms.

- 1. Materials specially designed for use as absorbers of electromagnetic waves, or intrinsically conductive polymers, as follows:
 - a. Materials for absorbing frequencies exceeding 2×10^8 Hz but less than 3×10^{12} Hz;
- Note 1:**
- Item 1013.1.a. does not control:
- a. Hair type absorbers, constructed of natural or synthetic fibres, with non-magnetic loading to provide absorption;
 - b. Absorbers having no magnetic loss and whose incident surface is non-planar in shape, including pyramids, cones, wedges and convoluted surfaces;
 - c. Planar absorbers, having all of the following characteristics:
 - 1. Made from any of the following:
 - a. Plastic foam materials (flexible or non-flexible) with carbon-loading, or organic materials, including binders, providing more than 5% echo compared with metal over a bandwidth exceeding $\pm 15\%$ of the centre frequency of the incident energy, and not capable of withstanding temperatures exceeding 450 K (177°C); or
 - b. Ceramic materials providing more than 20% echo compared with metal over a bandwidth exceeding $\pm 15\%$ of the centre frequency of the incident energy, and not capable of withstanding temperatures exceeding 800 K (527°C);