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COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 22.9.2009  
COM(2009) 496 final

Proposal for a

**COUNCIL REGULATION**

**amending Council Regulation (EC) No 423/2007 concerning restrictive measures against  
Iran**

## **EXPLANATORY MEMORANDUM**

- (1) Further to UN Security Council resolutions 1737 (2006) and 1747 (2007) Common Position 2007/140/CFSP and Council Regulation (EC) No 423/2007, as amended, make provision for certain restrictive measures against Iran.
- (2) In line with Common Position 2007/140/CFSP, Regulation (EC) No 423/2007 in particular restricts the supply, sale or transfer to Iran of certain items, materials, equipment, goods and technology, in addition to those determined by the Security Council or the Sanctions Committee, that could contribute to Iran's enrichment-related, reprocessing or heavy water-related activities, to the development of nuclear weapon delivery systems or to the pursuit of activities related to other topics about which the International Atomic Energy Agency (IAEA) has expressed concerns or identified as outstanding. These items are listed in Annex II to Regulation (EC) No 423/2007.
- (3) In consideration of Iran's increasing enrichment activities, the list of controlled items in Annex II needs to be revised in order to maintain its effectiveness.
- (4) Regulation (EC) No 423/2007 also prohibits the export of certain goods and technology listed in Annex IA. Certain references in Annex IA need to be corrected.
- (5) Article 15(1) of Regulation (EC) 423/2007 also needs to be amended in order to empower the Commission to amend Annex IA and Annex II on the basis of information supplied by either the United Nations Security Council or the Sanctions Committee, or by Member States.
- (6) The purpose of this proposal is to correct Annex IA and update Annex II to Council Regulation (EC) No 423/2007, and to empower the Commission to amend the said annexes.

Proposal for a

## COUNCIL REGULATION

### **amending Council Regulation (EC) No 423/2007 concerning restrictive measures against Iran**

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Articles 60 and 301 thereof,

Having regard to Common Position 2007/140/CFSP of 27 February 2007 concerning restrictive measures against Iran<sup>1</sup>,

Having regard to the proposal from the Commission,

Whereas:

- (1) In line with Common Position 2007/140/CFSP, Regulation (EC) No 423/2007 concerning restrictive measures against Iran<sup>2</sup> in particular restricts the supply, sale or transfer to Iran of certain items, materials, equipment, goods and technology, in addition to those determined by the Security Council or the Sanctions Committee, that could contribute to Iran's enrichment-related, reprocessing or heavy water-related activities, to the development of nuclear weapon delivery systems or to the pursuit of activities related to other topics about which the International Atomic Energy Agency (IAEA) has expressed concerns or identified as outstanding.
- (2) These items are listed in Annex II to Regulation (EC) No 423/2007. The list needs to be revised in order for it to maintain its effectiveness.
- (3) Regulation (EC) No 423/2007 also prohibits the export of certain other goods and technology listed in its Annex IA. Certain references in that Annex IA need to be corrected.
- (4) For reasons of expediency, the Commission should be empowered to maintain the lists of prohibited and of controlled goods and technology and to amend them on the basis of information provided by either the United Nations Security Council or the Sanctions Committee, or by Member States.
- (5) Regulation (EC) No 423/2007 should therefore be amended accordingly,

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<sup>1</sup> OJ L 61, 28.2.2007, p. 49

<sup>2</sup> OJ L 103, 20.4.2007, p. 1

HAS ADOPTED THIS REGULATION:

*Article 1*

Regulation (EC) No 423/2007 is amended as follows:

- (1) In Article 3, paragraph 1a is replaced by the following:  
‘1.a For all exports for which an authorisation is required under this Regulation, such authorisation shall be granted by the competent authorities of the Member State where the exporter is established and shall be in accordance with the detailed rules laid down in Article 11 of Regulation (EC) No 428/2009. The authorisation shall be valid throughout the Community.’;
- (2) In Article 15, paragraph 1 is replaced by the following:  
‘1. The Commission shall:
  - (a) amend Annex I on the basis of determinations made by either the United Nations Security Council or the Sanctions Committee;
  - (b) amend Annex IA and Annex II on the basis of information supplied by Member States;
  - (c) amend Annex III on the basis of information supplied by Member States;
  - (d) amend Annex IV on the basis of determinations made by either the United Nations Security Council or the Sanctions Committee;
  - (e) amend Annex VI on the basis of decisions taken in respect of Annexes III and IV to Common Position 2008/652/CFSP.’;
- (3) Annex IA is amended as set out in Annex I to this Regulation.
- (4) Annex II is replaced by the text in Annex II to this Regulation.

*Article 2*

This Regulation shall enter into force on the day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, [...]

*For the Council  
The President  
[...]*

## ANNEX I

Annex IA to Regulation (EC) No 423/2007 is amended as follows:

1) The description in entry IA.A1.009 is replaced by the following:

‘Fibrous or filamentary materials’ or prepregs, as follows:

- a. Carbon or aramid ‘fibrous or filamentary materials’ having either of the following characteristics:
  1. A ‘specific modulus’ exceeding  $10 \times 10^6$  m; or
  2. A ‘specific tensile strength’ exceeding  $17 \times 10^4$  m;
- b. Glass ‘fibrous or filamentary materials’ having either of the following characteristics:
  1. A ‘specific modulus’ exceeding  $3,18 \times 10^6$  m; or
  2. A ‘specific tensile strength’ exceeding  $76,2 \times 10^3$  m;
- c. Thermoset resin-impregnated continuous ‘yarns’, ‘rovings’, ‘tows’ or ‘tapes’ with a width of 15 mm or less (once prepregs), made from carbon or glass ‘fibrous or filamentary materials’ other than those specified in IA.A1.010.a. or b.

Note: This item does not cover fibrous or filamentary materials defined in items 1C010.a, 1C010.b, 1C210.a and 1C210.b.’

2) The description in entry IA.A1.010 is replaced by the following:

‘Resin-impregnated or pitch-impregnated fibres (prepregs), metal or carboncoated fibres (preforms) or ‘carbon fibre preforms’, as follows:

- a. Made from ‘fibrous or filamentary materials’ specified in IA.A1.009 above;
- b. Epoxy resin ‘matrix’ impregnated carbon ‘fibrous or filamentary materials’ (prepregs), specified in 1C010.a, 1C010.b or 1C010.c, for the repair of aircraft structures or laminates, of which the size of individual sheets does not exceed  $50 \text{ cm} \times 90 \text{ cm}$ ;
- c. Prepregs specified in 1C010.a, 1C010.b or 1C010.c, when impregnated with phenolic or epoxy resins having a glass transition temperature ( $T_g$ ) less than 433 K (160 °C) and a cure temperature lower than the glass transition temperature.

Note: This item does not cover fibrous or filamentary materials defined in item 1C010.e.’

## ANNEX II

### "ANNEX II

### **Goods and technology referred to in Article 3**

#### **INTRODUCTORY NOTES**

1. Unless otherwise stated, reference numbers used in the column below entitled "Description" refer to the descriptions of dual use items and technology set out in Annex I to Regulation (EC) No 428/2009.
2. A reference number in the column below entitled "Related item from Annex I to Regulation (EC) No 428/2009 means that the characteristics of the item described in the "Description" column lie outside the parameters set out in the description of the dual use entry referred to.
3. Definitions of terms between 'single quotation marks' are given in a technical note to the relevant item.
4. Definitions of terms between "double quotation marks" can be found in Annex I to Regulation (EC) No 428/2009.

#### **General Notes**

1. The object of the controls contained in this Annex should not be defeated by the export of any non-controlled goods (including plant) containing one or more controlled components when the controlled component or components is/are the principal element of the goods and can feasibly be removed or used for other purposes.  
*N.B.: In judging whether the controlled component or components is/are to be considered the principal element, it is necessary to weigh the factors of quantity, value and technological know-how involved and other special circumstances which might establish the controlled component or components as the principal element of the goods being procured.*
2. Goods specified in this Annex include both new and used goods.

#### **General Technology Note (GTN)**

(To be read in conjunction with Section II.B)

1. The sale, supply, transfer or export of "technology" which is "required" for the "development", "production" or "use" of goods the sale, supply, transfer or export of which is controlled in Part A (Goods) below, is controlled in accordance with the provisions of Section II.B.

2. The "technology" "required" for the "development", "production" or "use" of goods under control remains under control even when it is applicable to non-controlled goods.
3. Controls do not apply to that "technology" which is the minimum necessary for the installation, operation, maintenance (checking) and repair of those goods which are not controlled or the export of which has been authorised in accordance with Regulation (EC) No 423/2007.
4. Controls on "technology" transfer do not apply to information "in the public domain", to "basic scientific research" or to the minimum necessary information for patent applications.

## II.A. GOODS

### A0. Nuclear Materials, Facilities, and Equipment

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
II.A0.002	Faraday isolators in the wavelength range 500 nm – 650 nm	–
II.A0.003	Optical gratings in the wavelength range 500 nm – 650 nm	–
II.A0.004	Optical fibres in the wavelength range 500 nm – 650 nm coated with anti-reflecting layers in the wavelength range 500 nm – 650 nm and having a core diameter greater than 0,4 mm but not exceeding 2 mm	–
II.A0.008	<p>Laser mirrors, other than those specified in 6A005.e, consisting of substrates having a thermal expansion coefficient of <math>10^{-6}\text{K}^{-1}</math> or less at 20°C (e.g. fused silica or sapphire).</p> <p><i>Note : This item does not cover optical systems specially designed for astronomical applications, except if the mirrors contain fused silica.</i></p>	0B001.g.5, 6A005.e
II.A0.009	Laser lenses, other than those specified in 6A005.e.2, consisting of substrates having a thermal expansion coefficient of $10^{-6}\text{K}^{-1}$ or less at 20°C (e.g. fused silica).	0B001.g, 6A005.e.2
II.A0.010	Pipes, piping, flanges, fittings made of, or lined with nickel, or nickel alloy containing more than 40% nickel by weight, other than those specified in 2B350.h.1.	2B350

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
II.A0.011	<p>Vacuum pumps other than those specified in 0B002.f.2., or 2B231, as follows:</p> <ul style="list-style-type: none"> <li>– Turbomolecular pumps having a flowrate equal to or greater than 400 l/s,</li> <li>– Roots type vacuum roughing pumps having a volumetric aspiration flowrate greater than 200m<sup>3</sup>/h.</li> </ul> <p>Bellows-sealed, scroll, dry compressor, and bellows-sealed, scroll, dry vacuum pumps.</p>	0B002.f.2, 2B231
II.A0.014	Detonation chambers having a capacity of explosion absorption of more than 2.5kg TNT equivalent.	

#### A1. Materials, Chemicals, "Micro-organisms" and "Toxins"

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
II.A1.003	<p>Ring-shaped seals and gaskets, having an inner diameter of 400mm or less, made of any of the following materials:</p> <ol style="list-style-type: none"> <li>a. Copolymers of vinylidene fluoride having 75% or more beta crystalline structure without stretching;</li> <li>b. Fluorinated polyimides containing 10% by weight or more of combined fluorine;</li> <li>c. Fluorinated phosphazene elastomers containing 30% by weight or more of combined fluorine;</li> <li>d. Polychlorotrifluoroethylene (PCTFE, e.g. Kel-F ®);</li> <li>e. Fluoro-elastomers (e.g., Viton ®, Tecnoflon ®);</li> <li>f. Polytetrafluoroethylene (PTFE).</li> </ol>	
II.A1.004	Personal equipment for detecting radiation of nuclear origin, including personal	1A004.c

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	dosimeters.  <i>Note: This item does not cover nuclear detection systems defined in item 1A004.c.</i>	
II.A1.006	Catalysts, other than those prohibited by I.1A.003, containing platinum, palladium or rhodium, usable for promoting the hydrogen isotope exchange reaction between hydrogen and water for the recovery of tritium from heavy water or for the production of heavy water.	1B231, 1A225
II.A1.007	Aluminium and its alloys, other than those specified in 1C002.b.4 or 1C202.a, in crude or semi-fabricated form having either of the following characteristics:  a. Capable of an ultimate tensile strength of 460 MPa or more at 293 K (20 °C); or  b. Having a tensile strength of 415 MPa or more at 298 K (25 °C).	1C002.b.4, 1C202.a
II.A1.014	Elemental powders of cobalt, neodymium or samarium or alloys or mixtures thereof containing at least 20% by weight of cobalt, neodymium or samarium, with a particle size less than 200 µm.	
II.A1.015	Pure tributyl phosphate (TBP) [CAS No 126-73-8] or any mixture having a TBP content of more than 5 % by weight.	
II.A1.016	Maraging steel, other than those prohibited by I.1A.030, I.1A.035 or IA.A1.012  Technical Note:  <i>Maraging steels are iron alloys generally characterised by high nickel, very low carbon content and the use of substitutional elements or precipitates to produce strengthening and age-hardening of the alloy.</i>	
II.A1.017	Metals, metal powders and material as follows:  a. Tungsten and tungsten alloys, other than those	

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	<p>prohibited by I.1A.031, in the form of uniform spherical or atomized particles of 500µm diameter or less with a tungsten content of 97% by weight or more;</p> <p>b. Molybdenum and molybdenum alloys, other than those prohibited by I.1A.031, in the form of uniform spherical or atomized particles of 500 µm diameter or less with a molybdenum content of 97% by weight or more;</p> <p>c. Tungsten materials in the solid form, other than those prohibited by I.1A.037, or IA.A1.013 having material compositions as follows:</p> <ol style="list-style-type: none"> <li>1 Tungsten and alloys containing 97% by weight or more of tungsten;</li> <li>2. Copper infiltrated tungsten containing 80% by weight or more of tungsten; <u>or</u></li> <li>3. Silver infiltrated tungsten containing 80% by weight or more of tungsten.</li> </ol>	
II.A1.018	<p>Soft magnetic alloys having a chemical composition as follows:</p> <ol style="list-style-type: none"> <li>a) Iron content between 30% and 60%, <u>and</u></li> <li>b) Cobalt content between 40% and 60%.</li> </ol>	
II.A1.019	<p>“Fibrous or filamentary materials” or preregs, not prohibited by Annex I or by Annex IA (under IA.A1.009, IA.A1.010) of this Regulation, or not specified by Annex I of Regulation (EC) No 428/2009, as follows :</p> <ol style="list-style-type: none"> <li>a) Carbon “fibrous or filamentary materials”;</li> </ol> <p>Note: II.A1.019a. does not cover fabrics.</p> <ol style="list-style-type: none"> <li>b) Thermoset resin-impregnated continuous “yarns”, “rovings”, “tows”, or “tapes”, made from</li> </ol>	

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	carbon "fibrous or filamentary materials";  c) Polyacrylonitrile (PAN) continuous "yarns", "rovings", "tows" or "tapes"	

## A2. Materials Processing

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
II.A2.002	Machine tools for grinding having positioning accuracies with "all compensations available" equal to or less (better) than 15 µm according to ISO 230/2 (1988) (1) or national equivalents along any linear axis.  <i>Note: This item does not cover machine tools for grinding defined in items 2B201.b and 2B001.c.</i>	2B201.b, 2B001.c
II.A2.002a	Components and numerical controls, specially designed for machine tools specified in 2B001, 2B201, or II.A2.002 above.	
II.A2.003	Balancing machines and related equipment as follows:  a. Balancing machines, designed or modified for dental or other medical equipment, having all the following characteristics:  1. Not capable of balancing rotors/assemblies having a mass greater than 3 kg;  2. Capable of balancing rotors/assemblies at speeds greater than 12 500 rpm;  3. Capable of correcting unbalance in two planes or more; and  4. Capable of balancing to a residual specific	2B119

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	<p>unbalance of 0,2 g x mm per kg of rotor mass;</p> <p>b. Indicator heads designed or modified for use with machines specified in a. above.</p> <p><i>Technical Note:</i></p> <p><i>Indicator heads are sometimes known as balancing instrumentation.</i></p>	
II.A2.005	<p>Controlled atmosphere heat treatment furnaces, as follows:</p> <p>Furnaces capable of operation at temperatures above 400 °C.</p>	2B226, 2B227
II.A2.006	<p>Oxidation furnaces capable of operation at temperatures above 400 °C</p> <p><i>Note: This item does not cover tunnel kilns with roller or car conveyance, tunnel kilns with conveyor belt, pusher type kilns or shuttle kilns, specially designed for the production of glass, tableware ceramics or structural ceramics.</i></p>	2B226, 2B227
II.A2.007	<p>"Pressure transducers", other than those defined in 2B230, capable of measuring absolute pressures at any point in the range 0 to 200 kPa and having both of the following characteristics:</p> <p>a. Pressure sensing elements made of or protected by "Materials resistant to corrosion by uranium hexafluoride (UF<sub>6</sub>)", and</p> <p>b. Having either of the following characteristics:</p> <p>1. A full scale of less than 200 kPa and an 'accuracy' of better than ± 1 % of full scale; or</p> <p>2. A full scale of 200 kPa or greater and an 'accuracy' of better than 2 kPa.</p> <p><i>Technical Note:</i></p>	2B230

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	<i>For the purposes of 2B230, 'accuracy' includes non-linearity, hysteresis and repeatability at ambient temperature.</i>	
II.A2.008	<p>Liquid-liquid contacting equipment (mixer-settlers, pulsed columns, centrifugal contactors); and liquid distributors, vapour distributors or liquid collectors designed for such equipment, where all surfaces that come in direct contact with the chemical(s) being processed are made from any of the following materials:</p> <ol style="list-style-type: none"> <li>1. Alloys with more than 25 % nickel and 20 % chromium by weight;</li> <li>2. Fluoropolymers;</li> <li>3. Glass (including vitrified or enamelled coating or glass lining);</li> <li>4. Graphite or 'carbon graphite';</li> <li>5. Nickel or alloys with more than 40 % nickel by weight;</li> <li>6. Tantalum or tantalum alloys;</li> <li>7. Titanium or titanium alloys;</li> <li>8. Zirconium or zirconium alloys; or</li> <li>9. Stainless steel.</li> </ol> <p><i>Technical Note:</i></p> <p><i>'Carbon graphite' is a composition consisting of amorphous carbon and graphite, in which the graphite content is 8 % or more by weight.</i></p>	2B350.e
II.A2.009	<p>Industrial equipment and components, other than those specified in 2B350.d, as follows:</p> <p>Heat exchangers or condensers with a heat transfer surface area greater than 0,05 m<sup>2</sup>, and less than 30 m<sup>2</sup>; and tubes, plates, coils or blocks (cores) designed for such heat exchangers or condensers, where all surfaces that come in direct contact with the fluid(s) are made from any of the following</p>	2B350.d

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	<p>materials:</p> <ol style="list-style-type: none"> <li>1. Alloys with more than 25% nickel and 20% chromium by weight;</li> <li>2. Fluoropolymers;</li> <li>3. Glass (including vitrified or enamelled coating or glass lining);</li> <li>4. Graphite or 'carbon graphite';</li> <li>5. Nickel or alloys with more than 40% nickel by weight;</li> <li>6. Tantalum or tantalum alloys;</li> <li>7. Titanium or titanium alloys;</li> <li>8. Zirconium or zirconium alloys;</li> <li>9. Silicon carbide;</li> <li>10. Titanium carbide; or</li> <li>11. Stainless steel.</li> </ol> <p>Note: This item does not cover vehicle radiators.</p> <p><i>Technical Note:</i></p> <p>The materials used for gaskets and seals and other implementation of sealing functions do not determine the status of control of the heat exchanger.</p>	
II.A2.010	<p>Multiple-seal, and seal-less pumps, other than those specified in 2B350.i, suitable for corrosive fluids, with manufacturer's specified maximum flow-rate greater than 0,6 m<sup>3</sup>/hour, or vacuum pumps with manufacturer's specified maximum flow-rate greater than 5 m<sup>3</sup>/hour [measured under standard temperature (273 K or 0 °C) and pressure (101,3kPa) conditions]; and casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles designed for such pumps, in which all surfaces that come in direct contact with the chemical(s) being processed are made from any of the following materials:</p> <ol style="list-style-type: none"> <li>1. Alloys with more than 25% nickel and 20% chromium by weight;</li> <li>2. Ceramics;</li> <li>3. Ferrosilicon;</li> <li>4. Fluoropolymers;</li> <li>5. Glass (including vitrified or enamelled coatings or glass lining);</li> </ol>	

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	<p>6. Graphite or 'carbon graphite';</p> <p>7. Nickel or alloys with more than 40% nickel by weight;</p> <p>8. Tantalum or tantalum alloys;</p> <p>9. Titanium or titanium alloys;</p> <p>10. Zirconium or zirconium alloys;</p> <p>11. Niobium (columbium) or niobium alloys;</p> <p>12. Stainless Steel; or</p> <p>13. Aluminium Alloys.</p> <p><i>Technical Note:</i></p> <p>The materials used for gaskets and seals and other implementation of sealing functions do not determine the status of control of the pump.</p>	
II.A2.013	<p>Spin-forming machines and flow-forming machines, other than those controlled by 2B009, or prohibited by I.2A.009 or I.2A.020, having a roller force of more than 60 kN and specially designed components therefore.</p> <p><i>Technical Note:</i></p> <p><i>For the purpose of II.A2.013, machines combining the functions of spin-forming and flow-forming are regarded as flow-forming machines.</i></p>	

### A3. Electronics

II.A3.003	<p>Frequency changers or generators, other than those prohibited by I.0A.002.b.13 or I.3A.004, having all of the following characteristics, and specially designed components and software therefor:</p> <p>a. Multiphase output capable of providing a power of 40 W or greater;</p> <p>b. Capable of operating in the frequency range between 600 and 2 000Hz; <u>and</u></p>	
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	<p>c. Frequency control better (less) than 0,1 %.</p> <p><i>Technical Note:</i></p> <p><i>Frequency changers in II.A3.003 are also known as converters or inverters.</i></p>	
II.A3.004	Spectrometers and diffractometers, designed for the indicative test or quantitative analysis of the elemental composition of metals or alloys without chemical decomposition of the material.	

### A6. Sensors and Lasers

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
II.A6.002	<p>Optical equipment and components, other than those specified in 6A002, 6A004.b as follows:</p> <p>Infrared optics in the wavelength range 9 000nm—17 000nm and components thereof, including cadmium telluride (CdTe) components.</p>	6A002, 6A004.b
II.A6.005	<p>Semiconductor "lasers" and components thereof, as follows:</p> <p>a. Individual semiconductor "lasers" with an output power greater than 200 mW each, in quantities larger than 100;</p> <p>b. Semiconductor "laser" arrays having an output power greater than 20 W.</p> <p><i>Notes:</i></p> <p>1. <i>Semiconductor "lasers" are commonly called "laser" diodes.</i></p> <p>2. <i>This item does not cover "lasers" defined in items 0B001.g.5, 0B001.h.6 and 6A005.b.</i></p> <p>3. <i>This item does not cover "laser" diodes with a wavelength in the range 1 200 nm – 2 000 nm.</i></p>	6A005.b
II.A6.007	Solid state "tunable" "lasers" and specially designed	6A005.c.1

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	components thereof as follows: a. Titanium-sapphire lasers, b. Alexandrite lasers.  <i>Note: This item does not cover titanium-sapphire and alexandrite lasers defined in items 0B001.g.5, 0B001.h.6 and 6A005.c.1.</i>	
II.A6.009	Components of acousto-optics, as follows: a. Framing tubes and solid-state imaging devices having a recurrence frequency equal to or exceeding 1kHz; b. Recurrence frequency supplies; c. Pockels cells.	6A203.b.4.c

#### A7. Navigation and Avionics

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
II.A7.001	Inertial navigation systems and specially designed components thereof, as follows:  I. Inertial navigation systems which are certified for use on "civil aircraft" by civil authorities of a State participating in the Wassenaar Arrangement, and specially designed components thereof, as follows:  a. Inertial navigation systems (INS) (gimballed or strapdown) and inertial equipment designed for "aircraft", land vehicle, vessels (surface or underwater) or "spacecraft" for attitude, guidance or control, having any of the following characteristics, and specially designed components thereof:	7A003, 7A103

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	<ol style="list-style-type: none"> <li>1. Navigation error (free inertial) subsequent to normal alignment of 0,8 nautical mile per hour (nm/hr) 'Circular Error Probable' (CEP) or less (better); <u>or</u></li> <li>2. Specified to function at linear acceleration levels exceeding 10 g;</li> </ol>	
	<ol style="list-style-type: none"> <li>b. Hybrid Inertial Navigation Systems embedded with Global Navigation Satellite Systems(s) (GNSS) or with "Data-Based Referenced Navigation" ("DBRN") System(s) for attitude, guidance or control, subsequent to normal alignment, having an INS navigation position accuracy, after loss of GNSS or "DBRN" for a period of up to four minutes, of less (better) than 10 metres 'Circular Error Probable' (CEP);</li> <li>c. Inertial Equipment for Azimuth, Heading, or North Pointing having any of the following characteristics, and specially designed components thereof: <ol style="list-style-type: none"> <li>1. Designed to have an Azimuth, Heading, or North Pointing accuracy equal to, or less (better) than 6 arc/ minutes RMS at 45 degrees latitude; or</li> <li>2. Designed to have a non-operating shock level of at least 900 g at a duration of at least 1 msec.</li> </ol> </li> </ol>	
	<p><i><u>Note:</u> The parameters of I.a. and I.b. are applicable with any of the following environmental conditions:</i></p> <ol style="list-style-type: none"> <li>1. <i>Input random vibration with an overall magnitude of 7,7 g rms in the first half</i></li> </ol>	

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	<p><i>hour and a total test duration of one and a half hours per axis in each of the three perpendicular axes, when the random vibration meets the following:</i></p> <p><i>a. A constant power spectral density (PSD) value of 0,04 g<sup>2</sup>/Hz over a frequency interval of 15 to 1 000 Hz; and</i></p> <p><i>b. The PSD attenuates with a frequency from 0,04 g<sup>2</sup>/Hz to 0,01 g<sup>2</sup>/Hz over a frequency interval from 1 000 to 2 000 Hz;</i></p> <p><i>2. A roll and yaw rate equal to or greater than +2,62 radian/s (150 deg/s); or</i></p> <p><i>3. According to national standards equivalent to 1. or 2. above.</i></p>	
	<p><u><i>Technical Notes:</i></u></p> <p><i>1. I.b. refers to systems in which an INS and other independent navigation aids are built into a single unit (embedded) in order to achieve improved performance.</i></p> <p><i>2. 'Circular Error Probable' (CEP) – In a circular normal distribution, the radius of the circle containing 50 percent of the individual measurements being made, or the radius of the circle within which there is a 50 percent probability of being located.</i></p> <p><i>II. Theodolite systems incorporating inertial equipment specially designed for civil surveying purposes and designed to have an Azimuth, Heading, or North Pointing accuracy equal to, or less (better) than 6 arc minutes RMS at 45 degrees latitude, and specially designed components thereof.</i></p> <p><i>III. Inertial or other equipment using accelerometers specified in 7A001 or 7A101, where such accelerometers are specially designed and developed as MWD</i></p>	

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
	(Measurement While Drilling) sensors for use in downhole well services operations.	

### A9. Aerospace and Propulsion

II.A9.001	Explosive bolts.	
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### II.B. TECHNOLOGY

No	Description	Related item from Annex I to Regulation (EC) No 428/2009
II.B.001	<p>Technology required for the development, production or use of the items in Part II A. (Goods) above.</p> <p><i>Technical Note:</i></p> <p><i>Regulation (EC) No 423/2007, Article 1(d) the term 'technology' includes software.</i></p>	"

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