

1051. e. Optical fibre communication cables, optical fibres and specially designed components and accessories therefor, as follows:

1. Optical fibres or cables of more than 50 m in length having either of the following characteristics:
  - a. Designed for single mode operation; *or*
  - b. For optical fibres, capable of withstanding a proof test tensile stress of  $2 \times 10^9$  N/m or more;

**Technical Note:**

Proof Test: on-line or off-line production screen testing that dynamically applies a prescribed tensile stress over a 0.5 to 3 m length of fibre at a running rate of 2 to 5 m/s while passing between capstans approximately 150 mm in diameter. The ambient temperature is a nominal 293 K and relative humidity 40%.

**N.B.:**

Equivalent national standards may be used for executing the proof test.

1051. e. 2. Components and accessories specially designed for the optical fibres or cables embargoed by 1051.e.1., *except* connectors for use with optical fibres or cables with a repeatable coupling loss of 0.5 dB or more;
1051. e. 3. Optical fibre cables and accessories designed for underwater use;  
(For fibre-optic hull penetrators or connectors, see 1081.2.c.)
1051. f. Phased array antennae, operating above 10.5 GHz, containing active elements and distributed components, and designed to permit electronic control of beam shaping and pointing, *except* those for landing systems with instruments meeting ICAO standards (microwave landing systems (MLS)).

## 1052. TEST, INSPECTION AND PRODUCTION EQUIPMENT

1052. a. Equipment, and specially designed components and accessories therefor, specially designed for:
  1. Development of equipment, materials, functions or features embargoed by 1051., 1052., 1053., 1054. or 1055., including measuring or test equipment;
  2. Production of equipment, materials, functions or features embargoed by 1051., 1052., 1053., 1054. or 1055., including measuring, test or repair equipment;
  3. Use of equipment, materials, functions or features exceeding any of the least stringent embargo criteria applicable in 1051., 1052., 1053., 1054. or 1055., including measuring, repair or test equipment;

**NOTE:**

1052.a. does not embargo optical fibres and "optical fibre preform" characterization equipment not using semiconductor "lasers".

1052. b. Other equipment as follows:
  1. Bit error rate (BER) test equipment designed or modified to test the equipment embargoed in 1051.b.1.;
  2. Data communication protocol analyzers, testers and simulators for functions embargoed by 1051.b.1.;
  3. Stand alone "stored programme controlled" radio transmission media simulators/channel estimators specially designed for testing equipment embargoed by 1051.b.5.

## 1053. MATERIALS

Preforms of glass or of any other material optimized for the manufacture of optical fibres embargoed by 1051.e.

## 1054. SOFTWARE

1054. a. "Software" specially designed or modified for the "development", "production" or "use" of equipment or materials embargoed by 1051., 1052. or 1053.;
1054. b. "Software" specially designed or modified to support "technology" embargoed by 1055.;
1054. c. Specific "software" as follows:
  1. "Generic software", other than in machine-executable form, specially designed or modified for the "use" of "stored programme controlled" digital switching equipment or systems;

2. "Software", other than in machine-executable form, specially designed or modified for the "use" of digital cellular radio equipment or systems;
3. "Software" specially designed or modified to provide characteristics, functions or features of equipment embargoed by 1051. or 1052.;
4. "Software" which provides the capability of recovering "source code" of telecommunications "software" embargoed by this Category;
5. "Software" specially designed for the "development" or "production" of "software" embargoed by 1054.  
(For "software" for "signal processing" see also 1044. and 1064.)

## 1055. TECHNOLOGY

1055. a. Technology according to the General Technology Note for the "development", "production" or "use" (excluding operation) of equipment, systems, materials or "software" embargoed by 1051., 1052., 1053. or 1054.;
1055. b. Specific technologies, as follows:
  1. "Required" technology for the "development" or "production" of telecommunications equipment specially designed to be used on board satellites;
  2. Technology for the "development" or "use" of "laser" communication techniques with the capability of automatically acquiring and tracking signals and maintaining communications through exoatmosphere or sub-surface (water) media;
  3. Technology for the processing and application of coatings to optical fibre specially designed to make it suitable for underwater use;
  4. Technology for the "development" or "production" of equipment employing "Synchronous Digital Hierarchy" (SDH) or "Synchronous Optical Network" (SONET) techniques;
  5. Technology for the "development" or "production" of "switch fabric" exceeding 64,000 bit/s per information channel other than for digital cross connect integrated in the switch;
  6. Technology for the "development" or "production" of centralized network control;
  7. Technology for the "development" or "production" of digital cellular radio systems;
  8. Technology for the "development" or "production" of "Integrated Services Digital Network" (ISDN).

**NOTES:**

1. Governments may permit, as administrative exceptions, the shipment to the Czech Republic, Poland, and Slovak Republic of equipment or systems embargoed by 1051.b., c., d., e. or f., and test equipment, "software" and "use" technology therefor, provided the Government of the exporting country:
  - a. Is reasonably satisfied that the equipment or systems:
    1. Are designed for and will be used for specific civil applications; *and*
    2. Will be operated in the importing country by a civil end-user who has furnished to the supplier a signed statement certifying that the equipment or systems will be used only for the specific end-use;
  - b. Notifies the Committee at the time of licensing the export under the provisions of this Note. The information to accompany each case will include:
    1. End-use assurances provided by the importer and backed by his national authorities;
    2. A full description of the equipment or systems to be provided;
    3. The installation site and intended application; *and*
  - c. Promptly reports to the Committee evidence of:
    1. Any violation of the conditions of this Note; *or*
    2. Any removal or diversion of the equipment from authorized purposes related to the specific export licence.
2. Governments may permit, as administrative exceptions, the shipment to Estonia, Latvia and Lithuania of equipment or systems embargoed by 1051.b., c., d., e. or f., and test equipment, "software" and "use" technology therefor, provided the Government of the exporting country:
  - a. Is reasonably satisfied that the equipment or systems:
    1. Are designed for and will be used for specific civil applications; *and*