

G21F

PROTECTION AGAINST X-RADIATION, GAMMA RADIATION, CORPUSCULAR RADIATION OR PARTICLE BOMBARDMENT; TREATING RADIOACTIVELY CONTAMINATED MATERIAL; DECONTAMINATION ARRANGEMENTS THEREFOR (radiation protection by pharmaceutical means [A61K 8/00](#), [A61Q 17/04](#); in cosmonautic vehicles [B64G 1/54](#); combined with a reactor [G21C 11/00](#); combined with X-ray tubes [H01J 35/16](#); combined with X-ray apparatus [H05G 1/02](#))

Definition statement

This place covers:

Shielding providing protection against ionising radiation, i.e. against x-radiation, gamma radiation, corpuscular radiation or particle bombardment; devices and methods to treat radioactively contaminated materials.

References

Limiting references

This place does not cover:

Radiation protection by pharmaceutical means	A61K 8/00
Use of cosmetics or similar toilet preparations already classified as such in A61K 8/00 when brought into direct contact with the skin (i.e. topical preparations) for affording protection against X-rays or other harmful rays	A61Q 17/04
Radiation protection in cosmonautic vehicles	B64G 1/54
Shielding structurally associated with a reactor	G21C 11/00
Vessels, containers or shields associated with X-ray tubes	H01J 35/16
X-ray producing apparatus involving X-ray tubes; constructional details thereof; control thereof; circuits thereof	H05G 1/00 , H05G 1/02 , H05G 1/30

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Apparatus for radiation diagnosis, e.g. combined with radiation therapy equipment; safety means specially adapted therefor	A61B 6/10
Applying radioactive material to the body; shielding of fluid reservoirs therefor, e.g. syringe shielding	A61M 5/1785

Informative references

Attention is drawn to the following places, which may be of interest for search:

Applying radioactive material to, or placing it within, the body	A61M 37/0069 , A61N 5/10
Safety devices combined with or specially adapted for manipulators	B25J 19/00
Radiation protection in cosmonautic vehicles	B64G
Radiation protection combined with a nuclear reactor	G21C 11/00

Radiation protection combined with X-ray tubes	H01J 35/16
X-ray technique in general	H05G
Radiation protection combined with X-ray apparatus	H05G 1/02

Special rules of classification

Classification of both important (invention) information and additional information is obligatory.

G21F 1/00

Shielding characterised by the composition of the materials

Definition statement

This place covers:

Shielding characterised by the specific material or composition chosen for obtaining the protection against ionising radiation.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Lime, magnesia; slag; cements; compositions thereof, e.g. mortars, concrete or like building materials; artificial stone; ceramics; refractories; treatment of natural stone	C04B 28/00
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Shielding characterised by its physical form, e.g. granules, or shape of the material

Definition statement

This place covers:

Both the physical form of the shielding and the physical form of the shielding material or composition used to make the shielding. The subgroups only cover the physical form of the shielding itself.

[G21F 1/00](#) covers the material compositions, i.e. the choice of materials, [G21F 3/00](#) the shape that such composition takes.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Protective clothing or garments in general	A41D 13/00
Radiation protection in radiation diagnosis apparatus, e.g. combined with radiation therapy equipment	A61B 6/107

G21F 5/00

Transportable or portable shielded containers

Definition statement

This place covers:

Details of transportable containers for materials or structures emitting ionising radiation.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Radiation protection in radiation diagnosis apparatus, e.g. combined with radiation therapy equipment	A61B 6/107
Vehicles adapted for load transportation, to carry or to comprise special loads or objects	B60P
Containers for contents presenting particular transport or storage problems	B65D 81/00
Shock absorbers per se	F16F
Storage racks within reactor storage pool	G21C 19/07

G21F 7/00

Shielded cells or rooms

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Chambers provided with manipulating devices in general	B25J 21/00
Glove-boxes in general	B25J 21/02
Control or regulating systems in general	G05B

G21F 9/00

Treating radioactively contaminated material; Decontamination arrangements therefor

Definition statement

This place covers:

Treatment of radioactively contaminated material and all decontamination arrangements therefor as well as the decontamination of contaminated objects, apparatus and clothes and the decontamination of surfaces.

References

Limiting references

This place does not cover:

Reprocessing of nuclear fuel	G21C 19/42
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Separating different isotopes of the same chemical element	B01D 59/00
Reclamation of contaminated soil	B09C 1/00
Ingredients generally applicable to manufacture of glasses, glazes, or vitreous enamels	C03C 1/00
Materials for absorbing liquids to remove pollution	C09K 3/32
Detergent compositions based essentially on surface-active compounds; Use of these compounds as a detergent	C11D 1/00
Decommissioning	G21D 1/00

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

HLW	High Level Waste
MLW	Medium Level Waste
LLW	Low Level Waste