

## F42D

**BLASTING** (fuses, e.g. fuse cords, [C06C 5/00](#); {for obtaining fluid from wells [E21B 43/00](#); for mining or quarrying [E21C 37/00](#); for making tunnels or galleries [E21D 9/006](#)} ; cartridges [F42B 3/00](#))

### Definition statement

*This place covers:*

This subclass covers devices and methods for blasting for both civilian and military applications. The documentation is also organised according to the particular blasting operations. Further it includes particular safety arrangements for blasting or detonations.

### Relationships with other classification places

[C06B](#) : Chemical aspects of explosives, explosive compositions

[C06C](#):Chemical aspects of primers and detonators

### References

#### Limiting references

*This place does not cover:*

Fuses, e.g. fuse cords	<a href="#">C06C 5/00</a>
Blasting cartridges	<a href="#">F42B 3/00</a>

#### Informative references

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

For obtaining fluid from wells	<a href="#">E21B 43/00</a>
For mining or quarrying	<a href="#">E21C 37/00</a>
For making tunnels or galleries	<a href="#">E21D 9/006</a>
Seismic investigation using explosives	<a href="#">G01V 1/104</a>

## F42D 1/00

### Blasting methods or apparatus, e.g. loading or tamping

#### Definition statement

*This place covers:*

Devices and methods for blasting, including the arrangement of blasting cartridges as the smallest explosive unit into assemblies, pyrotechnic, electric and electronic ignition arrangements, in particular for the timed ignition of a multitude of single blasting units, and methods and apparatus for the tamping or loading of explosives. Further includes set-ups for breaching of doors or walls.

**F42D 1/042****{Logic explosive circuits, e.g. with explosive diodes}****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Electric circuits for blasting	<a href="#">F41D1/05</a>
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**F42D 1/043****{Connectors for detonating cords and ignition tubes, e.g. Nonel tubes (mounting of detonators in blasting cartridges [F42B 3/26](#))}****References****Limiting references***This place does not cover:*

Mounting of detonators in blasting cartridges	<a href="#">F42B 3/26</a>
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**Informative references***Attention is drawn to the following places, which may be of interest for search:*

Fuze connectors	<a href="#">C06C 5/06</a>
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**F42D 3/00****Particular applications of blasting techniques {(explosive welding [B23K 20/08](#); explosive bolts or actuators [F42B 3/006](#); explosive valves [F16K 13/06](#); cutting devices actuated by explosion [B23D 15/145](#); pyrotechnical actuators [F15B 15/19](#); switching devices actuated by explosion [H01H 39/00](#))}****Relationships with other classification places**

Cleaning by explosions	<a href="#">B08B 7/0007</a>
Well/Drilling blast units, perforating guns	<a href="#">E21B</a>

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

Cutting devices actuated by explosion	<a href="#">B23D 15/145</a>
Explosive welding	<a href="#">B23K 20/08</a>
Pyrotechnical actuators	<a href="#">F15B 15/19</a>
Explosive valves	<a href="#">F16K 13/06</a>
Explosive bolts or actuators	<a href="#">F42B 3/006</a>

Switching devices actuated by explosion	<a href="#">H01H 39/00</a>
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## F42D 3/06

for seismic purposes

### References

#### Informative references

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

Generating seismic energy using explosive charges	<a href="#">G01V 1/104</a>
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## F42D 5/00

Safety arrangements

### Definition statement

*This place covers:*

Methods and devices for increasing the safety of blasting operation, e.g. during blasting operation by providing a physical detonation wave absorbing shield, or the identification, neutralisation and removal of explosives in cases where the explosive did not detonate (abort of operation, malfunction/dud or decommissioning).

## F42D 5/04

Rendering explosive charges harmless, e.g. destroying ammunition ([F42B 39/14](#) and [F42B 39/20](#) take precedence) ; extracting primers, dismantling ammunition [F42B 33/04](#), [F42B 33/06](#); {chemical deactivating of explosives [C06B 21/0091](#)}); Rendering detonation of explosive charges harmless

### References

#### Limiting references

*This place does not cover:*

Fitting or extracting primers in or from fuzes or charges	<a href="#">F42B 33/04</a>
Dismantling fuzes, cartridges, projectiles, missiles, rockets or bombs	<a href="#">F42B 33/06</a>
Explosion or fire protection arrangements on packages or ammunition	<a href="#">F42B 39/14</a>
Packages or ammunition having valves for pressure-equalising; Packages or ammunition having plugs for pressure release, e.g. meltable	<a href="#">F42B 39/20</a>

#### Informative references

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

Elimination of undesirable or temporary components of an intermediate or finished product, e.g. making porous or low density products, purifying, stabilising, drying; Deactivating; Reclaiming	<a href="#">C06B 21/0091</a>
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## F42D 5/045

### Detonation-wave absorbing or damping means

#### Definition statement

*This place covers:*

This group includes all means to avoid the propagation of the detonation or blast wave during the destruction of ammunition by controlled detonation in a pressure chamber which is able to withstand a detonation inside. Also includes detonation wave guiding means.

#### References

##### *Limiting references*

*This place does not cover:*

Dismantling fuzes, cartridges, projectiles, missiles, rockets or bombs by combustion	<a href="#">F42B 33/067</a>
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