H05F

STATIC ELECTRICITY; NATURALLY-OCCURRING ELECTRICITY (electrostatic machines H02N; uses of electricity in performing operations, e.g. precipitation, see the relevant subclasses for the operations)

Definition statement

This subclass/group covers:

Means for preventing the formation of or removal of electrostatic charges in general, not otherwise provided for.

Using naturally-occurring electricity (e.g. lightning)

Relationship between large subject matter areas

As more and more the protection from and the removal of electrostatic charges have become critical in many systems and devices, subclasses have been created in many areas incorporating the scope of H05F, rendering this subclass the last appropriate place for classification.

Spark gaps, sparking plugs and corona discharge devices are classified in subclass H01T.

Electrostatic machines are classified in H02N.

References relevant to classification in this subclass

This subclass/group does not cover:

Installations of lightning conductors; Fastening thereof to supporting structure	H02G 13/00

Specific applications of methods or arrangements for preventing the formation of static electricity or for carrying off these charges after their formation. For example:

Garments protecting against electric shocks or static electricity	A41D 13/008
Footwear with earthing or grounding means	A43B 7/36
Carrying off electrostatic charges from living beings	A61N 1/14

Electric elements specially adapted for carrying off electrostatic charges from vehicles	B60R 16/06
Static discharge and lightning protection for aircraft	B64D 45/02
Arrangements in large containers	B65D 90/46
Structural protection against electrostatic charges or discharges for semiconductor devices	H01L 23/60
Protective earth or shield arrangements on coupling devices	H01R 13/648
Devices providing for corona discharge	H01T 19/00
Screening of printed circuits or components thereof against electric or magnetic fields	H05K 9/00

Informative references

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

Domestic cleaning implements functioning electrostatically	A47L 13/40
Cleaning by electrostatic means	B08B 6/00
Apparatus for electrographic processes using a charge pattern	G03G 15/00
Electrostatic machines	H02N

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Corona discharge or brush discharge	Discharge from a conductor when the potential difference between it and its

	surroundings exceeds a certain value but is not enough to cause a spark or an arc.
Spark gaps	Enclosed or non-enclosed discharge devices having cold electrodes and used exclusively to discharge a quantity of electrical energy in small time duration.
Coupling devices	Devices having two or more parts specially adapted so as to be capable of ready and repeated physical engagement or disengagement, without the use of a tool for the purpose or establishing or breaking an electrical path.
Electrostatic charge	They are used as synonyms for the electric charge at rest on the surface of an insulator or insulated body.

H05F 1/00

Preventing the formation of electrostatic charges

Definition statement

This subclass/group covers:

Means that prevent or suppress electrostatic charge build-up.

References relevant to classification in this group

This subclass/group does not cover:

Antistatic elements in semiconductor handling	H01L 21/67396
Antistatic coating in cathode/electron tubes	H01J 29/868

Informative references

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

Antistatic materials	C09K 3/16
Treatment of fabrics	D06M 15/00

H05F 3/00

Carrying-off electrostatic charges ([N: from shoes A43B7/36] ; from living beings A61N1/14 ; [N: from tyres B60C19/08 ; from vehicles B60R16/06 ; from aircraft B64D45/02 ; from large containers B65D90/46])

Definition statement

This subclass/group covers:

Residual main group for removing electrostatic charges not provided elsewhere.

References relevant to classification in this group

This subclass/group does not cover:

Chemical processes involving electrical discharges	B01J 19/08
Electrostatic spraying	B05B 5/00
Purifying air by electrostatic fields	F24F 3/166
Devices providing for corona discharge	H01T 19/00
Apparatus for generating ions into the atmosphere	H01T 23/00

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

(removal of or protection from electrostatic charge, rec)

Rec in footwear	A43B 3/163
Grounding means for footwear	A43B 7/36

Rec in chairs, beds	A47C 31/004
Rec in electrotherapy	A61N 1/14
Rec in tyres	B60C 19/08
Rec in vehicles	B60R 16/06
Rec in aircrafts	B64D 45/02
Rec in transfer of liquids from bulk storage into vehicles or smaller containers	B67D 7/3236
Antistatic layers in flexible sheet materials	D06N 7/0042
Rec in semiconductors	H01L 23/60
Rec in electric connectors	H01R 13/6485
Rec in electronic devices	H05K 9/0067, H05K 9/0079
Rec from sheets, webs	B65H 2301/5133

Informative references

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

Conductive hoses	F16L 11/127, F16L 11/1185

H05F 7/00

Using naturally-occuring electricity

Definition statement

This subclass/group covers:

Recovery and use of naturally-occurring electricity or electrostatic charge, ex., lightning.

Relationship between large subject matter areas

When the subject matter is the machine (normally a generator) that receives natural electrostatic charge and produces electric energy, H02N 1/00 or H02N 11/00 are relevant.

References relevant to classification in this group

This subclass/group does not cover:

Devices or methods for influencing weather	A01G 15/00
Screening atmospheric or terrestrial radiations or fields	A61N 1/16
Lighter-than-air aircrafts (ex balloons)	B64B 1/50
Measurements related to lightning	G01R 29/0842
Measuring atmospheric potential differences	G01W 1/16
Installation of lightning conductors	H02G 13/00