

Triboelectric Series

Common materials are listed according how well they create static electricity when rubbed with another material, as well as what charge the material will possess.

Become positive in charge

The following materials will tend to give up electrons when brought in contact with other materials. They are listed from those with the greatest tendency to give electrons to those that barely give up electrons.

Materials that gain a positive (+) electrical charge (or tend to give up electrons)	
Dry human skin	Greatest tendency to giving up electrons and becoming highly positive (+) in charge
Leather	
Rabbit fur	Fur is often used to create static electricity
Glass	The glass on your TV screen gets charged and collects dust
Human hair	"Flyaway hair" is a good example of having a moderate positive (+) charge
Nylon	
Wool	
Lead	A surprise that lead would collect as much static electricity as cat fur
Cat fur	
Silk	
Aluminum	Gives up some electrons
Paper	

Neutral

There are very few materials that do not tend to readily attract or give up electrons when brought in contact or rubbed with other materials.

Materials that are relatively neutral	
Cotton	Best for non-static clothes
Steel	Not useful for static electricity

Become negative in charge

The following materials will tend to attract electrons when brought in contact with other materials. They are listed from those with the least tendency to attract electrons to those that readily attract electrons.

Materials that gain a negative (–) electrical charge (Tend to attract electrons)	
Wood	Attracts some electrons, but is almost neutral
Amber	
Hard rubber	Some combs are made of hard rubber
Nickel, Copper	Copper brushes used in Wimshurst electrostatic generator
Brass, Silver	
Gold, Platinum	It is surprising that these metals attract electrons almost as much as polyester
Polyester	Clothes have static cling
Styrene (Styrofoam)	Packing material seems to stick to everything
Saran Wrap	You can see how Saran Wrap will stick to things
Polyurethane	
Polyethylene (like Scotch Tape)	Pull Scotch Tape off surface and it will become charged
Polypropylene	
Vinyl (PVC)	Many electrons will collect on PVC surface
Silicon	
Teflon	Greatest tendency of gathering electrons on its surface and becoming highly negative (–) in charge

Best Combinations

The best combinations of materials to create static electricity would be one from the positive charge list and one from the negative charge list.

Skin and polyester clothes

A common complaint people have in the winter is that they shoot sparks when touching objects. This is typically caused because they have dry skin, which can become highly positive (+) in charge, especially when the clothes they wear are made of polyester material, which can become negative (−) in charge.

People that build up static charges due to dry skin are advised to wear all-cotton clothes, which is neutral. Also, moist skin reduces the collection of charges.

Combing your hair

Human hair becomes positive (+) in charge when combed. A hard rubber or plastic comb will collect negative (−) charges on its surface. Since similar charges repel, the hair strands will push away from each other, especially if the hair is very dry. This is called "flyaway" hair. Since the comb is negatively charged, it will attract object with a positive charge—like hair. It will also even attract material with no charge—like small pieces of paper.

Fur and plexiglas rod

Rubbing a plexiglas rod with rabbit fur or wool will give the rod a negative charge. Although the rod can be used to pick up scraps of paper, the fur and wool quickly lose their charge.

Moderate combinations

When two materials that tend to give up electrons are rubbed together, the one with the greatest tendency will moderately become positive (+) in charge. Likewise, when two materials that tend to attract electrons are rubbed together, the one with the greatest tendency will moderately become negative (−) in charge.

Silk and glass

Rubbing a glass rod with a silk cloth will charge the glass with positive charges. The silk does not retain any charges for long.

Saran Wrap

Unrolling a piece of Saran Wrap or similar plastic wrap creates negative charges on the sheet. It will tend to stick to neutral items.