



Scotch Tape

Preparer's Version

Introduction

This demonstration showcases key principles of electrostatics, including the concepts of charge induction, separation, and attraction. When the tapes are ripped apart, the adhesive side, having lost electrons to the dull side, becomes positively charged, while the dull side, gaining electrons, becomes negatively charged. The attraction observed is a direct consequence of Coulomb's Law, which states that opposite charges attract. This phenomenon is also a tangible example of triboelectric charging, where different materials become electrically charged through friction and separation.

Safety Hazards

- Personal Protective Equipment

○ None required.

Materials

- Roll of Scotch Magic Tape

Procedure

1. Tear two pieces of scotch tape from the roll.
2. Fold an end of each piece into a short tab.
3. Observe how the sticky side of the pieces of tape will initially repel each other.
4. Stick one piece of tape onto the dull end of the other piece of tape.
5. Separate the two pieces of tape by quickly ripping them apart, holding onto the tabs.
6. Bring the two pieces of tape close together again, they should now attract each other and perform a sort of "high five" maneuver.

Tips & Tricks

- None.

Clean-Up Procedures

1. None.