

# ACETYLENE BLACK

---

# ACETYLENE BLACK

## Definition

---

- ❑ A special type of carbon black formed by an exothermic decomposition of acetylene
  - ❑ Characterized by the highest degree of aggregation and crystalline orientation when compared with all types of carbon black
  - ❑ Purest form of carbon black
  - ❑ Acetylene black must not be confused with the carbon black produced as a by-product during the production of acetylene in the electric arc process.
-

# ACETYLENE BLACK

## General

---

- Highly absorptive and electrically and thermally conductive because of its unique, three dimensional structure
  - Can absorb up to eight times its weight in Liquids
  - Two sources – Petrochemical plant or Calcium Carbide
-

# ACETYLENE BLACK

## Applications

---

- ❑ A component of depolarisation mixtures in dry cell batteries
  - ❑ A pigment with an antistatic effect in plastics
  - ❑ An electrically conducting filler in coatings covering conductors and in field boundary layers in high-voltage cables
-

# ACETYLENE BLACK

## Applications

---

- ❑ An electrically conducting filler with antistatic properties in parts made of technical rubber
  - ❑ A carbon component in hard metal carbides for metallurgical applications
  - ❑ A carbon component in electrocarbons
  - ❑ A pigment in electrically conducting paints
  - ❑ Pressure-sensitive Adhesive
-

# ACETYLENE BLACK

## Applications

---

- Pressure-sensitive conductive adhesive for use in attaching electrical components to a printed circuit board or membrane switch panel
  - Pressure-sensitive conductive adhesive for use in interconnecting elements on a single-sided printed circuit board or membrane switch panel
-

# ACETYLENE BLACK

## Applications

---

- Pressure-sensitive conductive adhesive for use in connecting one printed circuit board to another
  - Pressure-sensitive conductive adhesive which can be applied to a surface by silk screening
-

# ACETYLENE BLACK

## Pressure-Sensitive Adhesives

---

- A conductive adhesive for use in membrane switch and printed circuit technologies consists essentially of a resin modified copolymer of butadiene and styrene and a conductive element
  - The conductive element is preferably a material such as acetylene black and is more than 2 percent and less than 40 percent by weight of the adhesive
-

# ACETYLENE BLACK

## Markets

---

- Magnetic tape coatings
  - Conductive concrete
  - Silicone rubber
  - Batteries
  - Munitions
  - Sealants/caulks
  - Spark plug wires
  - Wire/cable insulation
  - Anti-static elastomerics
  - Paints/dispersions
  - Rocket propellants
  - Tire curing bladders
  - Inks and pigments
  - Satellite Shielding
  - Grease & lubricants
  - Rocket booster insulation
-