

AMPL22 TECHNOLOGY OF ELASTOMERS

UNIT-1 ELASTOMERS

- 1.1 Definition of elastomers and requirements of polymer to be elastomer:
- 1.2 Effect of molecular weight, tie points and glass transition temperature (T_g)
- 1.3 Characteristics. Different types of monomers used in synthesis of elastomers,
- 1.4 Classifications of elastomers,
- 1.5 Different processes used during life cycle of rubber like manufacture,
- 1.6 Storage, compounding, forming and vulcanization of rubbers,
- 1.7 Different ingredients used in it and functions of various compounding ingredient,
- 1.8 Various equipment's used for compounding and their comparison
- 1.9 Definitions of different terms like scorch, cure/over cure & study of curing.
- 1.10 Different types of vulcanization systems used for compounding and fillers used in elastomers, measurement of mooney viscosity and state of cure for rubber compound.
- 1.11 Synthesis of various rubbers natural rubber/ synthetic polyisoprene

UNIT-2 RUBBERS

- 2.1 Use of carbon black in rubbers,
- 2.2 Manufacture of tyres & different steps involved in it.
- 2.3 Synthesis of various rubbers styrene butadiene rubber,
- 2.4 SBS block copolymer, nitrile rubber,
- 2.5 EPR and EPDM rubber, polybutadiene rubber,
- 2.6 butyl and neoprene/ chloroprene rubber, silicone rubber, etc. and
- 2.7 Their properties and applications

References books:

1. Encyclopedia of Polymer Science and Technology, Johan Wiley and Sons, Inc 1965.
2. Encyclopedia of Polymer Science and Engineering, Johan Wiley and Sons, Inc 1988.
3. Encyclopedia of Polymer Science and Technology, Johan Wiley and Sons, Inc 1965.
4. Encyclopedia of Polymer Science and Engineering, Johan Wiley and Sons, Inc 1988.