

2.13 30913 SYNTHETIC RUBBER

UNIT-1

Structure property relations, compare elastomer, fibers and plastics, elastomers extensibility and recovery, TG, Crystallisability. Factors affecting TG and Crystallinity, Stereo regularity, Zeigler Natta Catalyst, History of Synthetic rubbers, statistics.

UNIT-2

Monomers- styrene- butadiene, isoprene
Detailed study of SBR- PBD – IR

UNIT-3

Monomers-Acrylo nitrile-chloroprene- Isobutylene, ethylene, propylene mention monomers- ethylidene 2 norbornene, 1, 4 Hexa diene, dicyclopentadiene
Detailed study of- IIR, Halogenated IIR, EPDM, NBR, CR

UNIT-4

Study of- C.S.M, fluoro carbon rubbers, Acrylic Rubbers, silicon rubbers, polyurethanes carboxylated rubbers- SBR, NBR, CR, and Butadiene

UNIT-5

Thermo Plastic Elastomers Thermo plastic elastomers, definition, Advantages, modification of elastomers to thermoplastic elastomers.

Study of thermoplastic SBR, Ethylene Vinyl acetate, Thermo polyurethane.

Blends Definitions – Advantages, Procedure, Blending for specific properties, and study of NR – PBD, NR-SBRPBD, NR-EVA, NBR-PVC, and NR-HSR.

Reference Books:

1. Rubber technology and manufacture – C.M. Blow
2. Rubber technology – Morton
3. Vander built rubber hand book – Vander built Rubber Company
4. Advances in rubber technology – Tata McGraw hill
5. Hand book of rubber technology – Hoffman
6. Rubber technology and manufacture _ Steavens Blow