



HANNA RUBBER COMPANY

Types of Rubber

SBR (ASTM D2000 Designation AA)

Styrene-Butadiene Rubber (SBR) is a synthetic rubber derived from the copolymerization of styrene and butadiene. It was developed as an alternative to natural rubber during World War II and was also known as GRS (Government Rubber Styrene) and is now one of the most widely used elastomers.

SBR has several physical properties that make it suitable for a variety of applications:

Mechanical Properties: SBR exhibits good tensile strength, abrasion resistance, and elongation, which makes it suitable for applications that require durability and flexibility, such as tires, conveyor belts, and hoses.

Impact Resistance: SBR has excellent impact resistance and can absorb shocks effectively, making it ideal for applications where cushioning is needed, like conveyor belting, skirtboard rubber and gaskets.

Flexibility: SBR maintains its flexibility over a broad temperature range, which allows it to perform well in various environments.

Water Resistance: SBR has moderate resistance to water and can be used in applications where it will be exposed to moisture, such as sealing and roofing materials.

Heat Resistance: SBR has moderate heat resistance, which makes it suitable for applications with moderate temperature exposure. However, it is not recommended for high-temperature applications, as it may degrade at elevated temperatures.

Chemical Resistance: SBR has fair resistance to some chemicals, such as mild acids, bases, and alcohols. However, it is not highly resistant to oils, solvents, and strong acids.

Electrical Properties: SBR has good electrical insulating properties, making it suitable for use in insulating materials and vibration pads.

Processability: SBR can be easily processed using various methods like extrusion, injection molding, and calendaring, which makes it versatile for manufacturing different products.

Cost-Effectiveness: SBR is relatively inexpensive compared to some other synthetic rubbers, which makes it an attractive option for cost-sensitive applications.

These technical properties make SBR a popular choice for a wide range of applications, including tires, gaskets, seals, hoses, and various other rubber products.

However, it is essential to consider the specific requirements of each application to determine if SBR is the most suitable material.