

Exensor Plastisol

The Plastisol used by Exensor Technology is a special formulation, which includes compounded Polyvinyl Chloride (PVC), plus additives such as plasticizers, stabilizers and fire retardant compounds. This formulation has been successfully used for more than 30 years. Other formulations of Plastisol are available to suit particular applications but it is recommended that Exensor is consulted if unusual or specific requirements are needed.

Mechanical Properties and applications

Exensor Plastisol is a tough resilient, rubber-like coating or boot material having excellent abrasion and impact resistance. The coating hardness is generally 70 Shore A Durometer at 20°C, but can vary between 50 and 100 shore A Durometer. The coatings can be applied in any thickness between 0.75mm and 25mm depending on the method of application.

Reusable insulating boots must be mechanically strong since they are expected to withstand the rigors of repeated handling in indoor and outdoor conditions, sometimes in extreme weather conditions. Typically the boots will be removed and replaced several times for maintenance purposes. Such mechanical properties as good tensile, tear and bursting strength are, therefore, important, as is abrasion resistance. To make reusable insulating boots it is necessary to have a metal mould and these can be designed and made to most requirements by Exensor.

Electrical Properties

The vinyl family of electrical insulating materials is a proven performer in the industry and is most widely used electrical insulation material in the world. Vinyl has been in use for more than sixty years with great success and it is difficult to name a replacement material that meets all of the technical and economic advantages. Together with excellent mechanical and chemical resistant properties, Exensor Plastisol provides high insulating and dielectric values. For instance, with coatings and boots, thicknesses of 3mm a dielectric strength in excess of 40 kV can be obtained. Remember that dielectric strength varies as the reciprocal of the square root of the thickness of the material (i.e., dielectric strength does not have a straight line relationship to thickness).

Exensor Plastisol is used as insulation for bus bar joints and, in some cases, bus bars, as well as many types of electrical insulating covers and fixtures; usually where safety and operational specifications require such protection.

The major application for Exensor Plastisol is reusable insulating boots where good dielectric strength combines with a tough, resilient material to provide excellent protection for major electrical installations. The material is used in both indoor and outdoor applications.

The usual choices of Exensor Plastisol depend on the application – RED for indoor GREY for outdoor installations. The GREY Plastisol has an ultra-violet light stabilizer added to the primary mix to protect against weathering. The RED Plastisol does not have this additive, however, all other characteristics, including dielectric strength are the same.

Weathering Properties

Exensor Plastisol reusable boots and covers have been checked after more than six years exposure to severe Canadian weather and were found to be in excellent condition.

Operating Temperatures

The maximum operating temperatures for Exensor Plastisol is 105°C. Operating Plastisol above this value, for any length of time, will cause loss of flexibility.

The minimum operating temperature is -40°, however the material will start to lose flexibility at about -20°C and where low temperature installation is necessary it is recommended that the material (usually boots) are kept in a warm place (e.g. vehicle).

It should be noted that although some flexibility is lost in extreme weather conditions all other properties are not affected.

Chemical Properties

Exensor Plastisols withstand strong mineral acids and alkalis, water, salt solutions and oxidising and reducing chemicals.