

# RUBBER LINED PARTS



Protective Coatings, Inc. (Proco) is a licensed applicator for Blair Rubber Company, Polymeric Protective Linings, and other lining manufacturers. We maintain a technical liaison with each of the lining manufacturers as further support for your needs.

## Process...

All parts to be rubber lined must be fabricated without sharp corners and all welds must be continuous (see fabrication specifications). After the weldment is inspected for suitability for rubber lining, it is blasted to white metal, and the appropriate adhesive system is applied to the blasted areas. The unvulcanized rubber sheets are cut to size and laid on the adhesive-coated surfaces. The rubber is then rolled out to remove any air or gas between the rubber sheets and the metal. The lining is then spark tested and any thin spots or openings are detected and repaired. The entire part is then vulcanized and spark tested again.

## Rubber Property Comparison †

Lining Type	Shore A Durometer	Upper Temperature Limit °F	Thermal Shock Resistance	Resistance To Hydrocarbons	Typical Uses
Soft Natural Rubber	30 to 60	160	Excellent	Poor	Acid storage, transportation equipment; abrasive services; white rubber for food grade; sulfur dioxide scrubbers
Semi-Hard Natural Rubber	80 to 95	180	Good	Fair	Chemical processing and plating
Hard Natural Rubber	90 to 100	200	Poor	Fair	Chemical processing; high temperature nickel-copper plating; steel pickling; vacuum service
Flexible Hard Natural Rubber	90 to 100	212	Fair	Fair	Same uses as hard natural rubber; better crack and heat resistance
Graphite Loaded Hard Rubber	95 to 100	212	Fair	Fair	Special lining for wet Chlorine gas in Chlorine cells and associated equipment
Three-Ply (soft-hard-soft)	40 to 50	230	Excellent	Fair	Combined abrasion and corrosion services; becoming popular for steel pickling lines; phosphoric acid
Neoprene	40 to 70	230	Excellent	Very Good	Chemical or abrasive services with oil present; best for strong bases; good weather resistance; fire retardant
Nitrile	60 to 90	200	Excellent	Excellent	Aliphatic hydrocarbons; kerosene; animal, vegetable, and mineral oils
Butyl	50 to 75	225	Excellent	Fair	Oxidizing acids; 70% hydrofluoric acid; super phosphoric acid; best water resistance; good for alternative service
Chlorobutyl	40 to 60	200	Excellent	Fair	Much the same as butyl but easier to apply and faster curing; sulfur dioxide scrubbers
EPDM	40 to 60	180	Excellent	Poor	Hypochlorite bleach; ozone and weather resistant

† Table is for reference only. Specific service conditions will effect compound selection. Contact us for recommendation.

## Some of the industries we serve...

### Chemical Process Industries:

Processing, Storage and Transportation Equipment for

#### Materials such as:

Phosphoric Fertilizers  
 Muriatic Acids  
 Hydrochloric Acids  
 Chlorine cell Parts

### Metal Treating Industries:

Rubber-Lined Tanks for Pickling, Plating, and Piping

### Power Generating Industries:

Rubber-Lined Scrubbers and Piping for Flue Gas Desulfurization

### Aggregate Processing Industries:

Rubber-Lined Shakers, Piping for Slurry, Chutes and Hoppers

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