

: Why PASSIVATION is absolutely needed for Stainless Steel Fabricated Equipments :

The Stainless Steel used for Nuclear applications, Chemical Plant & Machinery , Petrochemical Plants , Refinery Equipments , Heat Exchanger equipments and Food , Dairy , Pharmaceuticals & Beverages industries , Bakery Machinery , Sugar Plants , Mineral Water manufacturing equipments should be totally free of IRON PARTICLES. During Fabrication of Stainless Steel Equipments, **IRON particles get impregnated into its structure** due to Cutting / Turning / boring / drilling / bending / shearing / forming and welding operations.

PICKLING : Removal of Scales, welding burn marks, Oxide Formation and Heat Treatment Scales by use of Chemical Gels & Chemical Pastes is known as **PICKLING**.

COLD PASSIVATION : Removal of these embedded particles of Iron from the Stainless Steel Fabricated equipment is carried out by the process of **COLD PASSIVATION**. This process differs from the process of Acid Pickling.

What is Passivation : The conversion of Chemically Active Surfaces of Stainless Steel into an inert / very less Reactive. Surface is known as Chemical Passivation. The chemical Resistance of SS on the surface is obtained by Absolute Cleaning and formation of a hydrous Oxide Film .Film characteristics will vary depending upon the type of Alloy and composition of Steel.

What is Pre-Cleaning : Pre-cleaning is a process of removal of Oil , Grease , dust , dirt , loose rust and foreign matter sticking to the metal surface. Removal of Oil , Grease is especially very important as these impurities make the surface of Steel Non-Permeable to Chemical Cleaning. **Degreasing will very substantially improve Pickling & Passivation and Surface cleaning becomes very uniform.**

Pickling & Passivation Process Sequence & Products :

PRODUCT & Process	Method of Application	Product And Process Details	Rates per Unit	Used for
CLENSOL SS Degreasing & cleaning	Used at 5-10 % Solution with water at Room Temperature. Best used by Spraying	Neutral Water based ECOFRIENDLY & BIO-DEGRADABLE cleaner . Wash with water 5-10 minutes after application	5 Litrs : Rs 55 / Ltr 30 Ltrs : Rs 52 / Ltr	All SS Surfaces , Chemical Plants and Equipments , Tubes , Slat Sections, Castings Forgings
Britoss - Gel Pickling & Passivation Coverage : 50 – 60 Sq Ft / Kg	Used by BRUSH / Swabbing in some cases by use of Spray Equipment	Viscous GEL Easily reacts on Vertical And roof Top surfaces , with very less dripping	1 Kg : Rs 170 / Kg 5 Kg : Rs 165 / Kg	Chemical Process Plants, all types of Heat Exchangers , SOLAR Panels, SILOs, All SS 304 & 316 L Fabrications
Britoss Spray Pickling & Passivation Coverage : 80 – 90 Sq Ft / Kg	Used by SPRAY Brush / Swabbing BEST use by an all plastic Spray bottle for uniform action	Viscous liquid Easily reacts on Vertical & roof Top surfaces , with less dripping	5 Kgs Rs 155 / kg 35 Kg Rs 150 / kg	Chemical Process Plants, all types of Heat Exchangers , SOLAR Panels, SILOs, All SS 304 & 316 L Fabrications
Britoss- D Pickling & Passivation Coverage : 120 – 160 Sq Ft / Kg	Used by DIPPING Use as Supplied use by PP , PVC , HDPE , Sintex Tank, at Room Temp. when needed For Spray applications use all plastic Spray bottle .	liquid Easily reacts on tubes , hollow Sections, Castings , Forgings, Tube Bundles, Pipes, Heat Exchangers Tubes	5 Litrs : Rs 73 / Ltr 35 Ltrs : Rs 70 / Ltr	Chemical Process Plants, all types of Heat Exchangers , SOLAR Panels, SILOs, All SS 304 & 316 L Fabrications, Water Tanks,
Britoss – Pass	Used by SPRAY Brush / Swabbing BEST use by an all plastic Spray bottle for uniform action	Final Passivation offers additional protection to Pickled SS Fabrications	5 Litrs : Rs 70 / ltr 35 Ltrs : Rs 65 / ltr	Every Weld Cleaned, Pickled & Passivated SS 404 / 316 L Fabrications
NEUTRALIZER 30	Used by Pouring on Spillage , For Final washing of pumps, buckets, brush used for above process	Neutralizer 30 is used for Effluent Treatment	35 Ltrs : Rs 40 / ltr	

IS 2488 will apply for the process of Effluent Treatments

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INNOVATIVE COATING INDUSTRIES : MIDC PUNE OFFER A COMPLETE RANGE OF STAINLESS STEEL PICKLING & PASSIVATION CHEMICALS, UNDER THE BRAND NAME BRITOSS . The Range contains from CLEANING to FINAL PASSIVATION Process Chemicals. The BRITOSS RANGE Chemicals are ABSOLUTELY USER FRIENDLY, Very Easy to Handle and can be washed off completely in case of Spillage. The Britoss Range products , formulated as per the requirements of **ASTM A 380 & IS 10117, have very controlled fuming, prove to be EVEN ECONOMICAL compared to use of Concentrated Nitric / Hydrofluoric Acids .**

