

PICKLING / CHEMICAL DESCALING

Pickling is a metal surface treatment used to remove impurities, such as stains, inorganic contaminants, rust or scale from stainless steel. A solution containing strong acids, is used to remove the surface impurities.

Allegheny Surface Technology offers Pickling / Passivation services. We can pickle passivate inside or outside a tank, depending on the size of your product.

Pickling or chemical descaling is but one of several pretreatment steps available for preparing an article for further processing such as passivation or electropolishing, or to perform a superior cleaning operation on welded structures.

Pickling is the removal of oxide layers resulting from welding and heat-treating.

Pickling is the chemical cleaning of metallic surfaces in order to remove impurities, stains or scale with an acidic solution. Allegheny Surface Technology uses pickling solutions consisting of nitric and hydrofluoric acids to remove the scale and underlying chromium depleted layers to restore the corrosion resistance of stainless steel.

Mechanical removal of those imperfections may leave abrasive material or other particles embedded in the surface and in some applications mechanical polishing may be impractical. Pickling is considered the preferred solution for the restoration of the corrosion resistance in stainless steel. Pickling will further create a uniform dull finish on the work piece.

Allegheny Surface Technology is also capable of performing localized pickling. For those applications, pickling pastes, where the solution is mixed with an inert carrier, are used to treat selected areas such as welds. Examples are parts that just need welds cleaned up or parts which have other than stainless steel components as part of the assembly.

Our new facility has a containment area for the processing of large components. This enables us to process nearly any part that can be transported to our facility. If this is not feasible, we can deploy our on-site crews to perform this treatment at your facility.

For some applications electropolishing may be preferred to pickling. Metal removal is achieved by applying electric current to a part submerged in an electrolytic bath. Electropolishing typically creates a bright, smooth and more highly corrosion resistant finish.



BEFORE



AFTER

TECHNICAL INFORMATION

At Allegheny Surface Technology we meet standards set by the following to better satisfy the needs and expectations of our customers.

ASTM B 912

ASTM A 380

ASTM A 967

ASME BPE 2015

AMS 2700

Whatever your surface finish requirements, AST is the one stop shop. New or used, your place or ours, we'll finish the job in time for you to do yours.

Note: The chart to the right is to be used for reference only. Material and processes can and will affect results.

Grit#	R _a Microinch Mechanical Polish	R _a Microinch Electropolish
60	80-140	60-130
80	50-75	30-65
120	35-45	20-40
150	25-40	15-35
180	20-30	10-25
240	15-25	8-20
320	10-20	5-18
400	<10	5-10
500	<7	3-7

π is approximately equal to 3.14
Radius = diameter / 2
1ft³ = 7.481 gallons
1ft³ = 28.23 liters
1 gallon = 3.785 liter



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