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**METAL FINISHING
PRODUCT LINE**

METAL FINISHING PRODUCT LINE

PRODUCT	TECHNOLOGY	DESCRIPTION	BENEFITS
ANODIZING			
Cleaners			
HOUGHTO-CLEAN® A-1000	Strong sulfuric acid cleaner	A highly effective strong acid soak cleaner formulated with special surfactants to remove general soils, cutting oils and shop dirt from aluminum and its alloys while deoxidizing scale and oxidized formed prior to processing.	<ul style="list-style-type: none"> Bath requires fewer solution dumps Does not contain silicates
HOUGHTO-CLEAN® A-1083	Powdered, alkaline, borate based, non-etching/micro etching	A powdered non-etching immersion cleaner formulated to remove general soils, cutting oils and buffing and polishing compounds from aluminum extrusions prior to anodizing and bright dip.	<ul style="list-style-type: none"> Long life solution Does not contain silicates
HOUGHTO-CLEAN® A-1090	Liquid, alkaline, phosphated, non-etching/micro etching	A liquid alkaline soak cleaner for aluminum extrusions developed to remove general soils, cutting oils and shop dirt from aluminum extrusions prior to anodizing.	<ul style="list-style-type: none"> Bath requires fewer solution dumps Will not leave residues on the parts which could affect other anodizing steps
HOUGHTO-CLEAN® NPX	Liquid, alkaline, nonylphenol ethoxylates and borate free	A liquid, alkaline nonylphenol ethoxylates and borate free high detergency cleaner developed as an environmentally friendly aluminum cleaner used to remove general soils, cutting oils, machining oils and buffing compounds prior to anodizing	<ul style="list-style-type: none"> Free of silicates, PFOS/PFOAs, nonylphenol ethoxylates, and borates Removes soils that are difficult to clean"
Etchants			
HOUGHTO-ETCH™ AX-2050	Powdered fluoride based acid etch	A patented, highly effective acid etch formulated to provide a uniform fine matte satin finish that conceals surface defects on aluminum and aluminum alloys prior to anodizing.	<ul style="list-style-type: none"> Minimizes pitting and snow flake corrosion Provides a superior etch
HOUGHTO-ETCH™ AX-2040	Liquid fluoride based acid etch	A highly effective fluoride based, liquid acid etch that provides a smooth matte satin finish on aluminum alloys prior to anodizing.	<ul style="list-style-type: none"> Excellent in concealing die lines, flow lines light scratches Very low aluminum removal
HOUGHTO-ETCH™ AX-1897	Liquid long life etch additive	A low foam etchant additive for aluminum and aluminum alloys especially formulated to minimize solution buildup and overflow. It contains chelators and grain refiners and operates as long-life or never-dump etch process.	<ul style="list-style-type: none"> Prevents scale formation Reduces foam Low foaming
HOUGHTO-ETCH™ AX-1875	Liquid long life etch additive with built in zinc precipitaor	A specially formulated liquid concentrate with chelators and grain refiners for use with dry or liquid caustic etches. It will provide a long life etch bath for aluminum and its alloys and provide an even, matte finish without staining.	<ul style="list-style-type: none"> Prevents galvanized appearance on high zinc alloys Exceptionally fine finish Low foaming
Deoxidizers			
HOUGHTO-DEOX™ A-1720	Powdered, iron free deoxidizer with anti-pitting additives	A premium powdered desmut additive, which can be used effectively for desmutting and deoxidizing aluminum and its alloys. Contains special additives to prevent pitting & does not require addition of Nitric Acid.	<ul style="list-style-type: none"> Excellent smut removal Removes oxides and scale
HOUGHTO-DEOX™ A-1724	Liquid iron based dexoidizer	A strong acid, non-chromated liquid concentrate used for desmutting and deoxidizing aluminum and its alloys. When used at an elevated temperature, will effectively remove oxides, as well as smut residues, prior to an aluminum bright dip step or following an etch step.	<ul style="list-style-type: none"> Contains additives to prevent pitting of bright dipped aluminum Excellent smut removal
HOUGHTO-DEOX™ A-1714	Powdered, iron free deoxidizer	A powdered aluminum iron-free desmut additive used for desmutting and deoxidizing aluminum and aluminum alloys that effectively removes oxides and smut residues following an etch step.	<ul style="list-style-type: none"> Excellent smut removal Long bath life Fast acting
HOUGHTO-DEOX™ A-1745L	Iron based dexoidizer designed	An iron based liquid for desmutting and deoxidizing aluminum and aluminum alloys that effectively removes oxides and smut residues after a caustic etch for job shops processing a variety of alloys	<ul style="list-style-type: none"> Contains additives to prevent pitting Leaves clean, ready-to-anodize parts
Anodizing Additives			
ANODIZING ADDITIVE™ A-520	Anodize additive for Type III anodizing	A high speed liquid additive used with sulfuric acid anodizing process to produce hard coatings for architectural use as well as other applications.	<ul style="list-style-type: none"> Easier temperature control – Increased chiller efficiency Reduced dissolution of the anodic film by the electrolyte

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Colorants			
HOUGHTO-COLOR™ A-580	Single component, liquid, stannous sulfate based concentrate	A single addition "all in one" liquid tin-based electrolyte used as a second step after clear anodizing to produce various earth tones on aluminum and its alloys. Does not require the addition of concentrates or stabilizers.	<ul style="list-style-type: none"> Bath which requires less filtration Reproducible color
HOUGHTO-COLOR™ A-599	Liquid, stannous sulfate based concentrate	A liquid two-step electrolyte that contains tin sulfate, stabilizers and throwing power additives specially formulated to be used with stainless steel electrodes.	<ul style="list-style-type: none"> Built in stabilizer system Minimizes oxidation of stannous tin to insoluble stannic tin
HOUGHTO-COLOR™ A-558	Liquid, throwing power and stabilizer additive	A liquid concentrated additive used in conjunction with various HOUGHTO-COLOR™ baths to increase the speed and throwing power of HOUGHTO-COLOR™ baths. The liquid, once into solution, will help stabilize the bath against air oxidation of stannous ion to insoluble stannic ion.	<ul style="list-style-type: none"> Electrolytically applied Special stabilizer system
HOUGHTO-COLOR™ A-545	Liquid, throwing power and stabilizer additive	A liquid concentrated additive used in conjunction with various HOUGHTO-COLOR™ baths to increase the stability and throwing power of HOUGHTO-COLOR™ baths. The liquid, once into solution, will help stabilize the bath against air oxidation of stannous ion to insoluble stannic ion.	<ul style="list-style-type: none"> Reproducible color Minimizes oxidation of stannous tin to insoluble stannic tin
Sealants			
HOUGHTO-SEAL™ ECO	Magnesium based nickel free seal	A non-nickel, mid-temperature range sealing system for anodized aluminum. Parts sealed in HOUGHTO-SEAL™ ECO will pass the Modified Dye Stain Test and the Acid Dissolution Test (ADT) immediately after sealing. Spent bath is free of hazardous metals.	<ul style="list-style-type: none"> Free of nickel and other metals that require waste treatment Effectively seals all types of anodic coatings without smutting, powdering, or yellowing
HOUGHTO-SEAL™ A-617	Nickel fluoride based room temperature seal	A pure nickel fluoride cold seal designed to seal anodized aluminum parts from 86° to 90°F. Parts sealed in this product will pass the Dye Stain Test immediately after drying, pass the Modified Dye Stain Test six hours after, and pass the Acid Dissolution Test 24 hours after curing.	<ul style="list-style-type: none"> Can be used on clear, electrolytically colored, integrally colored and most dyed finishes Significantly reduces energy consumption resulting in operating cost savings
HOUGHTO-SEAL™ A-620	Nickel acetate based mid temperature seal	Formulated with special organic additives that effectively seal all types of anodic coatings without smutting, powdering or yellowing after exposure to sunlight.	<ul style="list-style-type: none"> Will effectively seal all types of anodic coatings without smutting, powdering or yellowing Reduced chemical consumption from high temperature DI water sealing plus shorter sealing times
HOUGHTO-SEAL™ A-638	Surfactant package for mid temperature seals	A highly concentrated seal surfactant designed to improve seal quality, reduce smut and shorten times.	<ul style="list-style-type: none"> Maintains a high quality seal appearance Contains anti-foaming agent
ALUMINUM PAINT PRE-TREATMENT			
Spray & Immersion Cleaners			
HOUGHTO-CLEAN® A-801	Strong alkaline etching cleaner	A pre-paint alkaline spray cleaner concentrate for aluminum formulated to remove cutting and forming oils and lubricants prior to chrome/phosphate treatment in a paint line. It can also be used as immersion cleaner.	<ul style="list-style-type: none"> Non-foaming Does not contain silicates—no residues remove heavy carbon streaks and pick up
HOUGHTO-CLEAN® A-807	Mild phosphated acid cleaner	An accelerated liquid acid spray cleaner formulated to remove forming and cutting oils prior to treatment in a paint line. It can also be used as immersion cleaner. It is designed to etch aluminum and activate surface for conversion coatings.	<ul style="list-style-type: none"> Well suited for operations with varying types of soil Helps to remove adherent materials and cover minor surface blemishes prior to anodizing
Spray & Immersion Paint Pre-Treatment			
HOUGHTO-COAT™ A-830/A-840	Chromate/phosphate conversion coating	A concentrated liquid chrome-phosphate for aluminum prepaint treatment used with the HOUGHTO-COAT™ A-840 accelerator.	<ul style="list-style-type: none"> Promotes excellent conversion coating quality Provides for excellent chrome/phosphate activity on the aluminum surface
HOUGHTO-COAT™ A-701	Titanium based chrome free conversion coating	A concentrated liquid chrome-free conversion coating for aluminum used to promote paint adhesion and metal to rubber bonding.	<ul style="list-style-type: none"> Chrome Free Provides for excellent activity on the aluminum surface