



Metal Packaging

A COMPLETE SOLUTION FROM COIL TO CUP, BODYMAKER TO WASHER AND WATER TREATMENT TO PLANT & EQUIPMENT.

Total Chemical Management

MST Chemicals are the only company globally to be able to offer a truly complete solution for the front-end with the ability to manage the chemical process from coil to cup, bodymaker to washer, waste water treatment to discharge, while ensuring cans leave the washer bright, treated and protected, our unique position enables us to offer the potential of chemical turn key management, especially when combined with our proven Zero Liquid Discharge (ZLD) plant.

Our products are designed to meet the needs of the Canmaker to maximise line efficiency and reduce line spoilage while maintaining the highest quality standards.

With our **Aluguard** PLC Controller and SMART pumps, we offer customized control of the process leading to reduce consumption and cost.

Product range:

- Post lubricants
- Copper lubricant
- D&I coolants (Bodymaker)
- Pin chain lubricant
- Cleaners
- Surface conditioner and treatment
- Mobility enhancers
- Waste water treatment chemicals
- Maintenance and service chemicals

Equipment

- Customised chemical process controllers
- DI and RO plant and control
- Waste water treatment plant & equipment



Customer Focused



With over 45 years of combined Metal Packaging experience in both supply chain and technical solutions, MST Chemicals are focused on the customers needs to achieve the highest standards in KPIs .

At MST Chemicals we understand the need to maximise line efficiency and reduce spoilage while at the same time balancing cost and logistics.

Whether you are looking for process improvement through innovation or simply to qualify a second supplier for security, MST have you covered.

Gone are the days when suppliers only supplied chemicals: at MST Chemicals we are focused in providing an unparalleled service and reporting structure with a 'cradle to grave' attitude, we care about your waste and how to control it, which is unprecedented in todays supply chain.



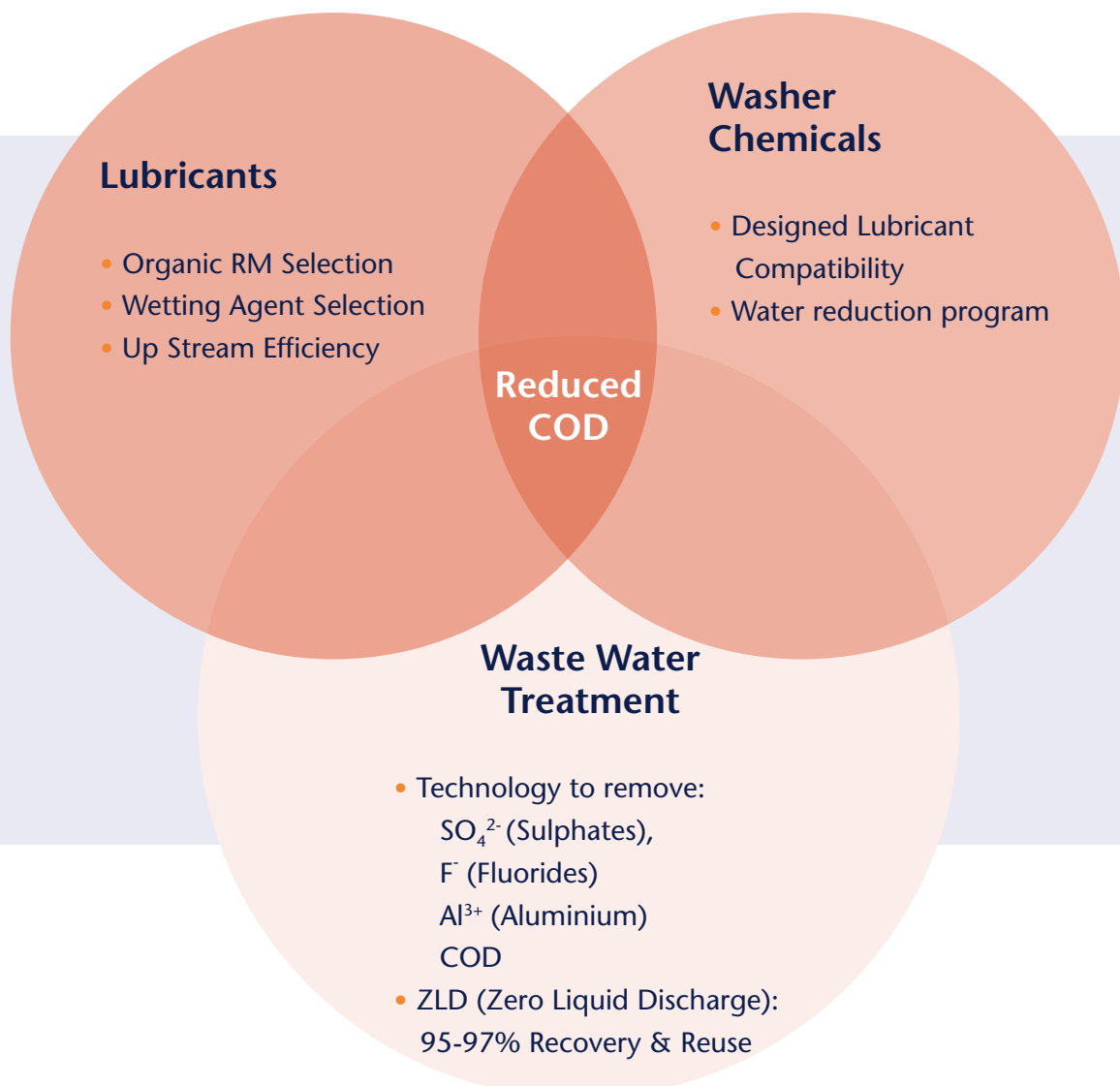
'Our job is to listen to your needs'

Environmentally Focused

MST Chemicals are focused on protecting the environment for present and future generations to come.

Through careful selection of sustainable raw materials along with defined process control MST Chemicals are able to minimise COD levels and maximise the recovery of water, without any compromise to quality.

Our revolutionary Zero Liquid Discharge plants are testimony to our commitment.



Lubricants

Product

Features & Benefits

Post Lubricants (PURO-POST LUBE)

- Applied to Aluminum Coil Stock
- Spray/ Electrostatic Application.
- Superior corrosion resistance and improved lubrication.
- Reduced tear-off
- Improve cosmetic aspect of cans
- Excellent cleanability



Cupping Lubricants (PURO-CUP LUBE)

- Interior can's brightness
- Superior surface finish
- Bleed through protection
- Excellent tear-off performance
- Over 20 years of proven technology



Bodymaker Coolant (PURO-COOL)

- Excellent coolant capability.
- Superior cleaning and lubricating power package
- Low sludge formations
- Excellent biostability
- No requirement for extra biocide addition



Pin Chain Lubricant (PURO-CHAIN)

- Reduced Carbon and Varnish Deposits at HT.
- Eliminates Accumulation of solids
- Longer Lubrication Intervals
- No Odors
- NSF H2 registered



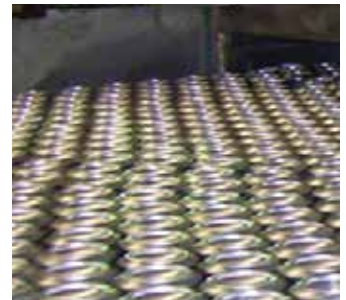
Washer Chemicals

Product

Features & Benefits

Acid Cleaners (PURO-CLEAN)

- Perfect Surfactants / Emulsifier balance
- Superior control-foam
- High de-smutting power
- Low and removable COD content
- Excellent rinsing with high/low hardness water
- Use for high or low salinity water
- Fully biodegradable Surfactants
- New generation of single product Cleaner + Etching
- Compliant with REACH and EU detergent regulations



Toner: Cleaner Accelerant (PURO-TONER)

- High performance
- Lower consumption
- Instrument measurable concentrations
- Superior shining capability
- Ammonium free products



Surface Conditioner & Treatment (PURO-TREAT)

- Zirconium Oxide Coating
- Perfect uniform Muffle test results
- Superior bonding capability
- Instrument measurable concentration



Mobility Enhancer (PURO-SLIP)

- Strong anti-friction action
- Higher lane speed
- Improved mandrel loading
- Higher level of bio-degradability
- Lower COD



Waste Water Treatment (PUR-ALL)

Product

Features & Benefits

Coagulants

- Co-precipitation of metals as hydroxide
- pH stabilizers



COD & Organic Absorber

- Lubricant removal
- Surfactant absorber
- COD removal up to < 120 ppm



Sulphate & Fluoride Reducer

- Sulphate removal up to < 100 ppm
- Fluoride removal up to < 4 ppm



Flocculants

- To improve flocculation in the settler (Lamella or Standard)
- To improve sludge settling (Sludge thickener)
- To help sludge dewatering (Filter press)



Antifoam and Foam Controller

- To prevent foaming in Wastewater
- To control foam in Evaporators



RO (Chemicals)

- Superior Membrane cleaning
- Prevent organic clogging
- Improving membrane duration



Chemical Controller ALUGUARD 7000



ALUGUARD 7000

It is the first aluminum can washer controller able to control and maintain the correct concentration ranges of:

- Chemicals in Cleaner, Treatment, and Mobility Enhancer stages;
- R.P. (Aluminum) in the Cleaner and Treatment Stages;
- Water Consumption through Rinse salinity (Stages 3 and 5);
- Conductivity of the final D.I. Rinse;

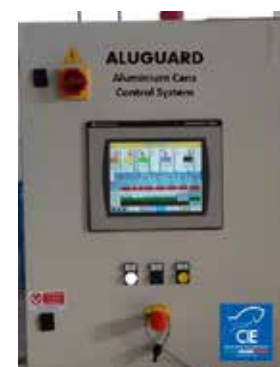
Total and Free Acidity:

- Highly reliable pH and conductivity reading, while the robust digital dosing pumps provide to maintain the correct concentration of chemicals.
- **R.P.** is automatically maintained at a predetermined value by an algorithmic system that calculates Aluminum growth. The local chemical supervisor inputs the preferred R.P. value (from 10 to 20) and the ALUGUARD maintains it.
- The **Fluoride** concentration is maintained at the correct value by the specific ion analyzer and by the dedicated timed-cycle dosing pump. At the customer's request, it is possible to directly dose the Fluoride accelerator by Can Count and timed- cycle dosing pump.
- **Mobility-Enhancer** and its overflow are driven directly by Can Count + dosing pump.
- **Rinses** are measured by the conductivity and the conductivity is maintained at the predetermined value by automatically driving the main feed-valve on stage 5. (Solenoid Valve).
- **D.I.** is an optimal supplementary special Low conductivity probe and transmitter to drive or measure the D.I. water refilling.

**ALUGUARD 7000 is not a controller.
It is an Analytical and
MANAGING ROBOT
of the complete can washer!**



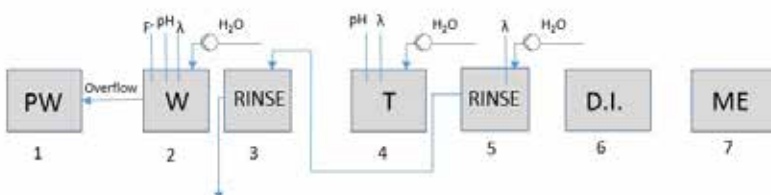
1. Clear Polypropylene Segregation for Dosing Pump.



2. ALUGUARD 7000 Control Panel.

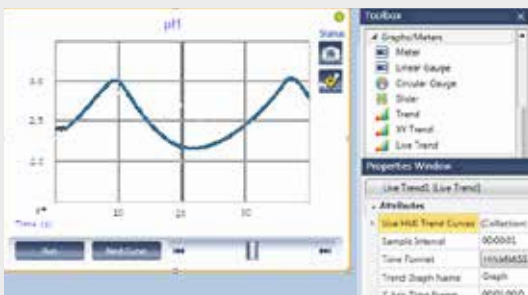


3. Digital Dosing Pump of ALUGUARD.

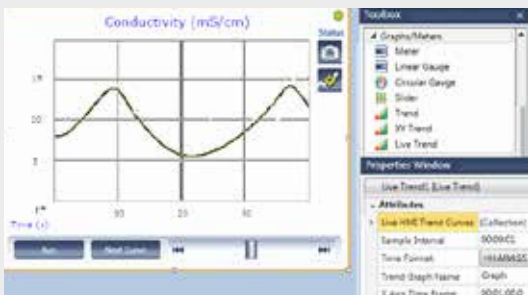




RP



FA (Free Acid)



TA (Total Acid)

Graphics and trends

The ALUGUARD 7000 offer also the possibility to show and to record all the chemical parameter measured and all the chemicals dosed.

It offers two different possibilities: trends and records. All the data can be easily checked trough a really user friendly interface.

Data can be stored in a USB flash drive, with a history of up to 6 years.

Alarm handling

The ALUGUARD 7000 system is equipped with different pre set alarms. Each analog input is compared with different set points and if it is below or above the setpoint value it will automatically display an alarm.

The alarm is not only on the HMI it is stored in the Flash Drive.

The alarm page describe the alarm in order to provide to the operator all the necessary information to sort out the ongoing situation.

The system also prevents the clearing of the alarm page; saving all the data on the USB flash drive memory.

HMI and graphical pages

The system is equipped with a color touch screen. Each graphical page is well described in order to understand the meaning of each parameter.

Access and support

The ALUGUARD 7000 is equipped with a dedicated Ethernet port in order to connect directly the system with the network both internally or externally. It is possible to connect to the system from remote with a dedicated IP address. This allows MST to provide the necessary support, with the Clients authorization.

Instruments and sensor

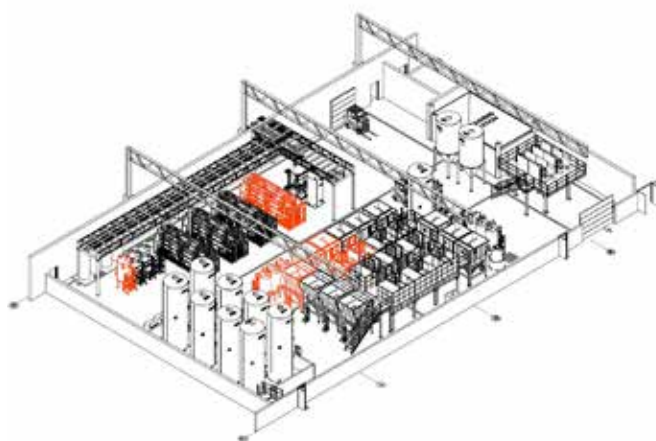
The ALUGUARD 7000 has different instruments and checks all over the line. Each instrument will have local visualization and provides trough a 4 – 20 mA current loop the real value to the PLC in order to display it on the HMI and to manage it. The applied conductivity sensors are different, taking into account the working condition of the bath. Inductive cells are applied on the baths. On the rinse tanks we use conductive probes.

All the conductivity and pH sensor include temperature compensation. An automatic function in the transmitter corrects the measured parameter according to the temperature.

All the equipment used, like pumps, valves and levels are designed to work seamlessly for the correct concentration and bath condition.

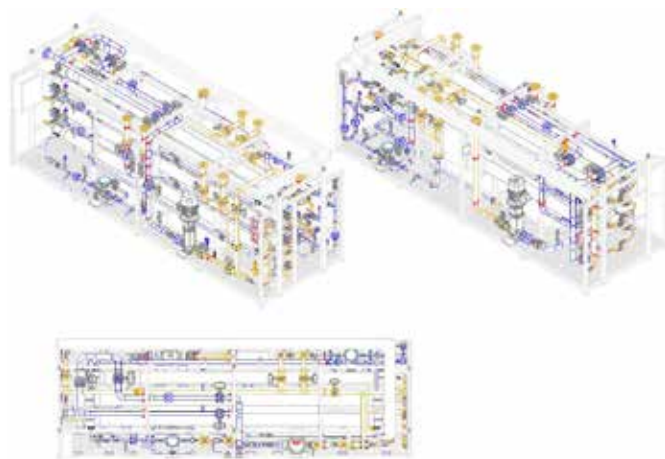
Waste Water Treatment (Plant & Equipment)

WWT Plant (Waste Water Treatment Plant)



- N°2 Waste Water Treatment Plant mod. PUR-ALL 30 + 30. Waste Water Treatment for N°4 Washer (3.000 cpm each).
- Designed to achieve low limits for: Sulphates, Fluorides, TDS, COD.

RO (Reverse Osmosis)



- N°3 RO mod. RODP 20. Reverse Osmosis for N°4 Washer feeding stage 6 (3.000 cpm each).
- Special design: permeate 20 m³/h, recovery 80%, conductivity < 3 μS/cm .

DRD (Deionizing Unit), MB (Mixed Bed Units) and IX (Ion Exchange) Resin Technology



- N°1 DRD+MB mod. 12 + 12. for N°2 Washer (3.000 cpm each).
- Special design: demineralized water 12 m³/h, low chemicals consumption, conductivity < 2 μS/cm.
- Packed Bed Technology:
 - High Ion exchange Efficiency.
 - Low chemicals and water consumption < 50% spent regenerants compared to the standard technology.

(ZLD) Zero Liquid Discharge Plant



- ZLD mod. 16. for N°2 Washer (3.000 cpm each).
- Special design: Total water recovery up to 97%.

Technical Service

At MST Chemicals we understand the need to have technicians on site to ensure application parameters are adhered too and gain the best possible outcome from our technology. Our team will be with you every step of the way whether it is first-fill, cleanout, Start Up, Commissioning or simply on going support.

Our team are made up of experienced can makers who have decades of experience in their field.



Metal Packaging Value Chain

Lubricants

Post Lube (Coil)
Pin Chain Lube
Copper Lube
Body Maker Coolant

Washer Chemicals

Alkali Cleaners
Acid Cleaners
Toner
Treatment
Mobility Enhancer

WWT

Coagulants
Fluoride Removal
Sulphate Removal
COD Absorber
Flocculants
Special Neutralisers

Maintenance & Service

Bio & Bactericides
Sanitizers
RO Maintenance
Silicone Free Antifoam
Granular & Powder Charcoal
IX Resin
Floor Cleaners

Plant & Equipment

Chemical Controllers
Dosing Pumps
Zero Liquid Discharge Plant
DI & RO Plant
WWT Plant

R&D Facilities



Our products are specifically developed for D&I in two-piece cans and can be tailored to the individual customer needs.

MST Chemicals R&D group design systems that provide optimized operating conditions to minimize chemical usage and costs.

Qualified Team

Full-service testing that includes:

- Bench top studies
- Pilot plant testing to confirm operating conditions
- On-site Beta testing
- Local training



Fully equipped Laboratory

- Plasma
- Spectrophotometer
- Specific Ion Analyzer
- Pilot plant equipment (Ultrafiltration, Ion Exchange, Reverse Osmosis, Evaporator)



MST chemicals in the world



MST CHEMICALS HQ and South African Branch U.A.E. Agent

Italy
South Africa
United Arab Emirates

MST CHEMICALS Worldwide Customers

India	France
Vietnam	Angola
Kazakhstan	UK
Saudi Arabia	Hungary
Greece	USA
UAE	Belarus
Serbia	Iceland
Czech Republic	



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