A leading global company of surface treatment technologies

2017
Chemetall Surface Treatment
At a Glance

- Headquarters: Frankfurt am Main (Germany)
- Sales: 845 million US-Dollar (2015)*
- Employees: about 2,500 worldwide**
- Subsidiaries: 40+ worldwide***
- Production sites: 20+ on all continents***
- A global business unit of BASF Coatings division

Leading globally in the surface treatment industry

* in US-Dollar @ actual rates  ** FTE  *** incl. Joint Ventures
BASF – We create chemistry

Overview

- Our chemistry is used in almost all industries
- We combine economic success, social responsibility and environmental protection
- Sales 2015: €70,449 million
- EBIT 2015: €6,248 million
- Employees (as of December 31, 2015): 112,435
- 6 Verbund sites and 353 other production sites
- Every year >1000 new patents worldwide
Technologies
High-Performance Product Groups

- Metalworking fluids
- Lubricants for metal forming
- Cleaners and etchants
- Corrosion protection agents
- Conversion coatings
- Thin organic coatings and primers
- Anodizing technologies
- Chemicals for water treatment
- Paint strippers
- Paint detackification
- Glass processing products
- Aircraft sealants
- Non-destructive testing products and equipment

Comprehensive portfolio of advanced and eco-friendly technologies
Chemetall Trademarks - Worldwide

ARDROX®
GARDO®
CHECKMOR®
GARDOFLOC®
GARDOCOOL®
LUMOR®

GARDO®FLEX
GARDOLUBE®
GARDO®PROTECTOR
GARDOSTRIP®
GARDOCLEAN®
GARDODET®

GARDOMER®
GARDOLENE®
NAFTOSEAL®
OXSILAN®
SUPRAMOR®

GARDACID®
GARDORET®
BRITEMOR®
PERMATREAT®

GARDOROL®
ANTOX®
OAKITE®
GARDO®HYBRID

GARDOBOND®
TECH COOL®

Strong global brands with proven performance
Markets We Serve

Extensive expertise network gained through operating in various markets
Certifications

Chemetall holds many certifications including:

+ DIN EN ISO 9001 (Overall)
+ ISO/TS 16949 (Automotive)
+ EN ISO 9100 (Aerospace)
+ ISO 14001 (Environment)

Qualified for our customers’ success
Integrated Portfolio of Innovative Products

- **Cut it.** Coolants, Cutting Fluids, and Lubricants
- **Clean it.** Cleaners and Paint Strippers
- **Coat it.** Corrosion Preventives, Surface Treatment and Rust Inhibitors
- **Control it.** CODACS and Non-Destructive Testing
- **Conserve it.** Energy Savings Technologies, Water and Waste Water Treatments.
Aerospace

Your Plus:
+ A unique one-stop premium supplier.
+ Approvals include aircraft and engine OEM’s and airlines
+ Globally established brands available for
  • Aircraft manufacturing and operation
  • Aircraft and aero-engine overhaul
  • Non-Destructive Testing

Innovation:
+ Naftoseal® low-density sealants
+ Ardrox® new generation of NDT products
+ Ardrox® eco-friendly cleaners and paint strippers
+ Ardrox® AV new generation of CICs
+ Chrome-free pretreatment processes

Globally established products with a broad range of approvals

„Accredited Supplier“ Award
Airbus “Materials & Parts SQIP” program
Cleaners

Chemetall offers a complete range of ARDROX cleaners for the Airframe, Aircraft Operations and Aero-Engine market sectors, for instance

- Solvent Cleaners
  - brush
  - immersion
  - Wipe
- Interior Cleaners
  - general purpose
  - flight deck/window cleaning
  - cabin care
- Exterior Cleaners
  - heavy-duty cleaning
  - landing gear cleaning
  - aircraft polishing
- In-Process and Primary Cleaning
  - spray cleaning
  - immersion cleaning
Corrosion Inhibiting Compounds

ARDROX AV CICs

+ penetrate into the joints, cracks and crevices within the airframe
+ displace moisture
+ form a protective barrier
+ inhibit corrosion
ARDROX paint strippers – a comprehensive, state-of-the-art range of products for e.g. the removal of aircraft paint systems and carbon from engine parts by:

- **Application**
- **Spray**
- **Immersion**
Non-Destructive Testing (NDT)

Your Plus:

- Fast and safe detection of indications using state-of-the-art products:
  - Penetrant Testing (PT)
  - Magnetic Particle Testing (MT)
- All relevant approvals available.
- Well-defined range of NDT equipment.
- Tailor-made solutions for aerospace, automotive, energy and general industry.

Innovation:

- Ardrox® 970x and 981x series: based on latest surfactant technologies
- Checkmor® 240: improved application and product performance
- Lumor® J 40(W): updated, borate-free technology

Integrated and advanced solutions for PT und MT
Non-Destructive Testing

Chemetall offer a complete range of ARDROX NDT products for

- liquid penetrant inspection
  - type 1, fluorescent
    - water-washable
    - post-emulsifiable
  - type 2, visible
    - water-washable
    - post-emulsifiable

- emulsifiers and removers
  - solvent removers (method C)
  - emulsifier, hydrophilic (method D)

- developers
  - dry powder (form a)
  - water-soluble (form b)
  - water-suspendible (form c)
  - nonaqueous (forms d and e)

- magnetic particle inspection
  - fluorescent
    - water-based
    - petroleum-based
  - visible black
  - white background lacquer
  - carrier fluid
Low-Density Sealants

Your Plus:

- Total sealant weight reduction of 25% achievable*
- Approved by Airbus, Bombardier, Embraer, Alenia and others.
- Over aircraft lifetime, each one kg of weight savings enables airline to save approx. 5,000 US Dollars in fuel and service.

Innovation:

- Naftoseal® MC-780 low-density sealant
  - chrome-free
  - solvent-free/ low solvent content
  - weight saving

More economic efficiency with widely approved low weight product

* A new-generation long-range aircraft needs approx. 1,000 kg conventional sealants or 750 kg Naftoseal® low-density sealant.
Sealants and Sealant Removers

A full range of approved sealants for the aircraft industry:

- Fuel tank sealants
- Fuselage sealants
- Low-adhesion sealants
- Multi-purpose / Low-density sealants

Some advantages of the Naftoseal aircraft sealants:

- Eco-friendly properties (chromate-free, solvent-free/low solvent content)
- Fast tack-free times
- Fast cure times
Premium Metalworking Fluids

Every substrate to be machined has its own demands on the lubricating coolant.

Chemetall offers a broad portfolio of metalworking fluids to meet specific customer requirements for various machining operations.

- Cutting
- Milling
- Broaching
- Drilling
- Tapping

Cool and lubricate for the best cut with high-quality products
Premium Metalworking Fluids

Your Plus:
- Minimized drag-out
- Low consumption rates
- Reduced maintenance and waste disposal costs
- Increased safety
- Bactericide Free
- Enhanced Lubricity/Tool Life
- Increased Corrosion Control
- Exceptional Emulsion Stability/sump life
- Low Foaming
- Drier Chips

Innovation:
- Formulations free of boron and formaldehyde
- High performance additive technologies
Product Lines

- **Temporary Protective Coatings**
  - Water and Solvent based Acrylics
  - Multiple Color Options

- **Aluminum Pre-Treatments**
  - Etchants – Alkaline & Acidic
  - Deoxidizers – Ferric & Ferric free
  - Conversion Coatings – Chrome & Non-Chrome

- **Engine Overhaul Products**
  - Cleaners
  - Carbon & Scale Removers
  - Rust Preventatives

- **Engine Compressor Cleaning**
  - crank wash
  - fired wash
The Chemetall Way

- Competitive pricing
- High performance level
- On-Time delivery
- Fast response
- High level of Support
- National Accounts Programs – Corporate Contracts
- Wide Product Line
- Ability to Reduce Your #’s of Vendors
- State of the Art Laboratory and Production Facilities
- Dedicated Aerospace Sales Force
Why CHEMETALL

- The products are familiar and are globally recognized as one of the best
- Chemetall provides the best customer focused support team including local, regional, technical and corporate support
- NDT testing programs
- Wide Product line with all necessary approvals
- Support in all of North America (US, Canada & Mexico)