MetaLine®.com

surface protection

Manufacture, Production, Plant Engineering

Automotive, Energy, Conveyor Systems, Mining, Resources, Shipping and many other industries

MetaLine® Series 700

Sprayable, Elastomeric Repair Systems and Protective Coatings against erosion, corrosion, cavitation and wear

Since 1960 – Made in Germany

MetaLine® Series 700

Rubber-like sprayable wear protection to solve erosion, corrosion, cavitation, and wear problems directly on-site

Rubber is a proven wear and corrosion protection technology, however, with seams that can fail, restricted repairability, and its equipment need for vulcanization, rapid in-situ lining is generally not possible. Epoxy ceramic products are often used when repairs need to be made, but replacing rubber with rigid plastic based composites is a questionable approach for an effective repair.

MetaLine Series 700 is an elastomeric product that combines the efficiency and performance of vulcanized rubber coatings and the simple processing with the resistance of duplex steel. Additionally, our innovative Cartridge Spray Application allows the product to be directly applied on-site – seamlessly, rapidly, and professionally.

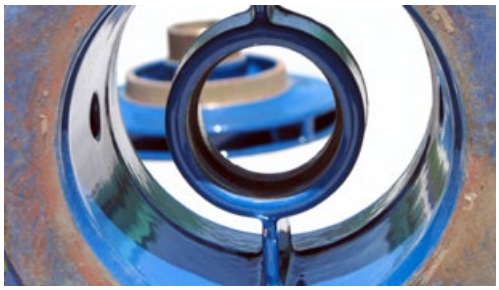
By means of the MetaLine APPLICATOR S-700, the cartridge packaged polymer is mixed and sprayed simultaneously. The result is a hydrodynamic resistant protective coating that provides unparalleled erosion resistance. Its durability is several times higher in comparison with conventional wear protective systems!

MetaLine Series 700 technology is unique because of its simple spray application process, extraordinary surface smoothness, and resultant improvement in flow dynamics. Efficiency increases of up to 3.5 % have been proven.

The MetaLine process is suitable for the protection of complete metal components as well as the repair of existing rubber linings & parts.

Corrosion-resistant
Permanently elastic
Abrasion & Erosion-resistant
Sprayable and moldable
Shock-absorbing
Glide-enhancing or
Slip-resistant

The daily repair routine when epoxy ceramic compounds are brush applied. No hydraulic engineer wants to see irregular surfaces like this ...



... and that's the way it should be! The **MetaLine resurfacing technology are smoother than any steel casting and about 500 % more wear-resistant compared to mild steel**. Repairs extending the durability of original spare parts and offering lower maintenance costs.

For more than 50 years

MetaLine looks back on more than 50 years of experience when it comes to repairing, protecting, and maintaining stressed equipment. Our products have become OEM (Original Equipment Manufacturer) Standard in many different industries.

When handling our coating materials, we place great importance on expert instruction, customer communication, and Know-How-Transfer. To realize this objective, we offer periods of instruction that range from one day to several days at our location or yours – worldwide! Video & project support is available at any time.

MetaLine has its headquarters located near Stuttgart (Southern Germany), and through our sales partners, we are represented in more than 70 countries.

Our experienced trainers are at your disposal!
Do not hesitate to contact us!

The Material Properties

MetaLine Series 700 is a solvent-free two-component elastomer that can be applied by spraying, injection, or casting. Polymerization begins after 1 minute, so a coating thickness between 1 mm and 20 mm can be achieved without the material sagging, even on vertical surfaces. MetaLine Series 700 products can be used directly on-site in **almost any climatic conditions** (even in extremely high humidity/ temperature).

MetaLine Series 700 adheres to **most substrates** including steel, alloys, aluminium, rubber, concrete, wood and many plastics. It is not necessary to heat the components to be coated. After 5 minutes the coating is dry to the touch and most treated parts can be put into service about 24 hours later (at 20 °C). The temperature resistance is between -50 °C and +100 °C, depending on the relevant application.

MetaLine Series 700 cures without any tension or shrinkage. In addition to the chemical bonding process, it develops a mechanical **memory effect**. This permanently ties the coating to the substrate, thus counteracting any separation tendency that is normally associated with conventionally installed rubber sheets. MetaLine Series 700 can be recoated and repaired at anytime!

MetaLine Series 700 is provided in

3 different degrees of hardness

- **MetaLine 760 (60 Shore A)** serves to repair soft rubber linings and conveyor belts / splicing maintenance
- **MetaLine 785 (85 Shore A)** is the first choice for the protection of components subjected to wear, erosion or cavitation
- **MetaLine 795 (95 Shore A)** develops non-stick properties. Its ultra low coefficient of static friction prevents material bridging, e.g. loading gates

MetaLine Series 700 coatings are **non-toxic**, safe to use, and have been assessed by US & EU authorities as drug and food-safe according to FDA standards and relevant EEC regulations.

The strength of MetaLine Series 700 lies in its erosion and cavitation resistance, which is comparable to high-alloy steels and armors. With a density of just 1.05 g/cm³, it is the **most lightweight duroplastic wear protection** available. The potential energy savings when applied to impellers and rotors is considerable.

The Application Process

MetaLine APPLICATOR S-700 with Series 700 Double Cartridges

Just 3 coatings steps!

The use of highly functional coatings requires competent **surface preparation**. The surfaces to be coated must be dry, clean, free of grease and salt, and have **a rough blasted surface profile**. The abrasive used must have a particle size of approximately 1-2 mm.

1. Metal substrates are coated with **MetaLine 924** first. This **electro-chemically active corrosion protection** prevents borderline penetration on coating edges and protects partially damaged areas from rusting.
2. After drying, a double coat of **MetaLine 900 Universal Primer** on solid surfaces or **MetaLine 910 Rubber Primer** on rubber surfaces is applied.
3. Finally, **MetaLine Series 700** protective coating with the required film thickness and color is sprayed on!

A process created by professionals for professionals

- based on low-pressure technology (about 5 bars)
- only 200 liters of compressed air per minute required
- automatic dosing and mixing (no off-ratio)
- similar to wet-paint processing (however solvent-free)
- no mixed waste (similar to a 'DIY' spray can)
- re-use of opened cartridges
- **no equipment cleaning** after spraying
- designed for rough on-site working atmospheres
- investment costs below 1,000 EUR

The APPLICATOR S-700 does not come into contact with the coating material itself, so the tool does not require any cleaning or maintenance after the job is done.

MetaLine® Series 700

You will find our products used in nearly all Industries.
Click below on the different Fields of Application and download our INFO-700 brochures as pdf.

click your INFO-700 (pdf Version)

A
- Aeronautical Engineering
- Agitators/Mixers
- Assembly optimization
- Automation technology

B
- Ball valves
- Bellows
- Bio energy
- Blasting technology
- Bulk material plants

C
- Camouflage coatings
- Cathodic dip painting
- Centrifuges/Pulpers
- Concrete constructions
- Concrete processing
- Construction machines
- Conveyorbelts
- Cyclones
- Cylinders/Rollers

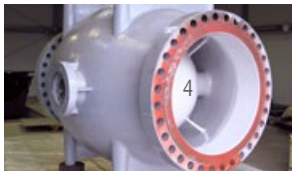
E
- Elastomeric castings
- Electrical insulation

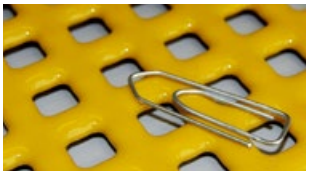
F
- Feeder bowls
- Flanges/Seals
- Food
- Forklift attachments
- Functional Seats

H
- Heat Exchangers
- Hydraulic steelworks

L
- Lifting devices/Clamps

M
- Maritime
- Mining/Flotation
- Municipal technology





O

- Occupational safety
- OTR-Tires

P

- Pharmacy
- Pipes
- Plastic welding
- Pressure-Pipes
- Propulsion Drives
- Pulp/Paper
- Pumps/Impellers

R

- Receptacles/Containers
- Rubber repairs

S

- Screening decks
- Screw conveyors
- Sports/Orthopedics

T

- Tanks/Containers
- Tools
- Tribofinish
- Turbines

U

- Ultra-pure surfaces

V

- Vacuumpumps
- Vehicles
- Ventilation
- Vibratory chutes
- Volute repairs

W

- Waterpurification
- Weighing technique
- Workpiece carriers
- Workpiece magazines

MetaLine® Series 700 (760, 785, 795)

	MetaLine 760	MetaLine 785	MetaLine 795
Prefered usage (multi-purpose use is possible)	shock absorption rubber repairs noise deadening slip resistance	wear protection erosion protection cavitation protection electrical insulation	anti-fouling performance non-stick character corrosion protection efficiency increase
Processing (spraying / casting / injecting)	APPLICATOR S-700	APPLICATOR S-700	APPLICATOR S-700
Solids content (DIN EN ISO 3251)	100 %	100 %	100 %
Mixing ratio (APPLICATOR S-700)	2 : 1 by volume	2 : 1 by volume	2 : 1 by volume
Consumption (theoretically per mm film thickness)	1.25 kg/m^2	1.20 kg/m^2	1.20 kg/m^2
Processing time (at ambient temperature)	7 min.	1 min.	1 min.
Solidification (at 20 °C – dependent on stress)	> 1.5 days	> 1 day	> 1 day
Hardness sprayed /cast on (A.S.T.M. D2240-68)	60 / 65 Shore A	82 / 85 Shore A	95 / 98 Shore A
Density (DIN 53 479)	1.10 g/cm^3	1.05 g/cm^3	1.05 g/cm^3
Tensile strength (A.S.T.M. D412-68)	20 N/mm^2	20 N/mm^2	24 N/mm^2
Tensile modulus at 100 % elongation (A.S.T.M. D412-68)	6 N/mm^2	7 N/mm^2	13 N/mm^2
Tear resistance (DIN 53 515)	68 N/mm	55 N/mm	68 N/mm
Elongation at break (A.S.T.M. D412-68)	650 %	380 %	275 %
Bashore resilience (DIN 53 512)	63 %	45 %	27 %
Coefficient of thermal conductivity (DIN 52 612)	0.2 W/K·m	0.2 W/K·m	0.2 W/K·m
Dielectric surface resistivity (DIN 53 482)	7 x 10^{10} Ohm	7 x 10^{10} Ohm	7 x 10^{10} Ohm
Dielectric breakdown voltage (DIN 53 841)	> 5 kV/mm	> 5 kV/mm	> 5 kV/mm
High temperature resistance (dry / wet)	+100 °C / +60 °C	+120 °C / +60 °C	+120 °C / +60 °C
Low temperature resistance (dry)	-50 °C	-50 °C	-50 °C
Abrasion according to Taber® (A.S.T.M. D1-044-73 - Rad H-22, dry, 1 kg, 1.000 U)	not defined	8.2 mg	10.5 mg
Abrasion (DIN 53 516)	85 mm^3	55 mm^3	65 mm^3
Coefficient of static friction (DIN EN ISO 8295)	$\mu(0)$ = approx. 0.7	$\mu(0)$ = approx. 0.6	$\mu(0)$ = approx. 0.15
Approvals (Pharma & Food standards)	FDA 177.1680 (21) EU 1935/2004 EU 10/2011	FDA 177.1680 (21) EU 1935/2004 EU 10/2011	FDA 177.1680 (21) EU 1935/2004 EU 10/2011

And what about the cost effectiveness?

MetaLine is often more efficient and cost-effective than OEM replacement parts and longer lasting than other means of repair. When comparing prices with conventional synthetic repair methods (such as epoxy-ceramic or trowelable rubber repair grouts) the MetaLine technology is impressive, providing **cost savings of up to 60 %.** For example, 1 kg of MetaLine Series 700 covers almost 1 m² in a thickness of 1 mm. For an identical coverage of epoxy-ceramic, over 2 kg would be required!

For start-up users, we recommend the **MetaLine Onboard-Kit.** This fully equipped set comes with:

- stable aluminium transport box
- SP-1 blasting gun and blasting grit
- APPLICATOR S-700
- spare nozzles
- cleaning agent
- primers for metal and rubber
- 10 kg Series 700 coating product
- mixing tools and brushes
- disposable gloves
- masking tapes
- **detailed Processing Instructions** with video support (pdf-download)

We train your crew

We support your crew during technical implementation of your requests.

A German MetaLine trainer or an **expert coater trained** at MetaLine Germany will instruct your employees regarding realization of professional repairs locally – in many different languages and almost at any **important Industry Centre** worldwide! Alternatively, you may also send your employees to our MetaLine training center to attend a training session there.

MetaLine encompasses a lot more than just the sale of products ... you may take our word for this!

For us it is very important that **your technicians** achieve solid and reliable results. Therefore, we offer you our experience, our advice and our support.

The complete MetaLine Onboard-Kit. Ready to start at any time, any place – by professionals for professionals ...

MetaLine®.com

surface protection

... from the Experts of Coating Technology

You will find MetaLine products used worldwide in various industries such as:

- Aeronautical Engineering
- Automation Technology
- Automotive Manufacturing
- Ceramics Industry
- Chemical Industry
- Concrete Production
- Conveyor Technology
- Electrical Engineering
- Fertilizer Production
- Foodstuff Processing
- Glass Processing
- Metal Foundries
- Mining Industry and Mining Technology
- Municipal Technology
- Nautical
- Occupational Safety
- Offshore & Marine
- Packaging Technology
- Petro-Chemical
- Pharmaceuticals
- Plastics Processing
- Power Plant Technology
- Pulp & Paper
- Recycling Technology
- Surface Technology
- Textile Machinery Design

... and much more

protect | repair | save | cover | improve

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