

CHEMICAL PROCESSING INDUSTRY

ANTICORROSIVE SOLUTIONS FOR CHEMICAL PROCESSING AND PHARMACEUTICAL INDUSTRY EQUIPMENT

Technicoat Ltd. specializes in the application of industrial coatings and provides job-coating services of fluoropolymer-based coatings, namely PTFE, PFA, FEP and ETFE. Using advanced technologies we apply coatings to various parts of technological equipment to ensure protection against corrosive environments and improve the efficiency of processes. Fluoropolymer based coatings offer high-tech solutions for the processes of chemical and pharmaceutical operations.

Fluoropolymer coatings feature the following combination of outstanding properties:



Chemical resistance

Fluoropolymer coatings represent excellent anticorrosive protection against the most aggressive organic and inorganic chemical environments within a wide range of operation temperatures.



Heat resistance

Fluoropolymer coatings can operate under temperatures far above all other thermoplastic and elastomer materials operation temperatures.

Coating type	PFA	FEP	ETFE
Max. continual operation temp. (°C)	260	205	150



Thermal conductivity

Fluoropolymer coatings have required thermal conductivity to be used in jacketed reactor vessels.

Coating type	PFA	ETFE	ENAMEL
Thermal conductivity coefficient (W/mK)	0,19	0,24	0,67



Nonstick

Fluoropolymer coatings have extremely low surface energy and therefore very few solid substances will permanently adhere to them.

Coating type	PFA	ETFE	ENAMEL
Surface energy water (mJ/m ²)	17	19	67
Contact angle - water (°)	112	103	23



High mechanical strength and elasticity

Coatings are not brittle, but resistant to mechanical damage, which is considered as a great advantage when compared to enamel linings.



PFA



ETFE



ENAMEL



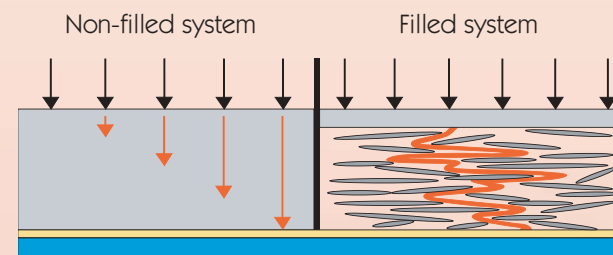
FDA Approval

Generally, fluoropolymer coatings are inert materials with hardly any leachouts and many types are FDA approved.



Permeation resistance

When compared to non-filled coatings, High-tech-filled coatings considerably retard permeation and thus improve resistance to the corrosion effects.



Coating surface roughness is very low and therefore cleanup is easier and more thorough - in many cases, surfaces are self-cleaning. Under application of special topcoats, coatings can be used in High Purity and Ultra High Purity environments (Pharmaceutical and semiconductor processes).

TECHNICOAT
S.R.O.
IBGMONFORTS





1



2



3



4



5



6



7



8



9



10



11



12

FOTO 1

Armature DN 600

FOTO 2

Storage tank 16 m³

FOTO 3

Transport tank 1 m³

FOTO 4

Agitators

FOTO 5

Valve head damaged glass lining

FOTO 6

Valve head - re-coated

FOTO 7

Reactor vessel 3 m³

FOTO 8

Reactor vessel 6 m³

FOTO 9

Piping systems

FOTO 10

Reactor vessel lid

FOTO 11

Filter lid

FOTO 12

Outlet valve

Renovation & Repair of damaged enamel coatings

www.technicoat.cz

- Heated apparatuses and auxiliary equipment (mixers, thermo wells, baffles)
- Outlet valves, valve heads, fittings
- Storage and transport tanks
- Centrifuges
- Pumps and piping systems
- Measuring probes
- Coil heaters
- Filters
- Columns
- Funs

Our processes:

We process parts up to 10 000 kg at maximum dimensions of 7 m length, 4 m width and 4 m height. Surface coating technology includes:

- Surface Preparation
 - degreasing
 - grit blasting - silica sand and aluminum oxides are used
 - ZnCa and Mn phosphating to enhance resistance to corrosion permeation
 - application of base coats to ensure required properties of final coatings
- Coat Application
 - dispersion spray coating
 - electrostatic and tribo-electric powder application methodc
 - fluidized bed coating
 - application of powder to pre-heated surface
- Curing
 - computer controlled curing processes at temperatures ranging from 150 °C to 450 °C
- Quality Control
 - final coating thickness test (5 - 2 500 μm)
 - adhesion test
 - spark test

Thanks to technical know-how and high quality of products and services, Technicoat Ltd was awarded DuPont's license for the application of Teflon® fluoropolymer coatings "DuPont Licensed Industrial Applicator".

