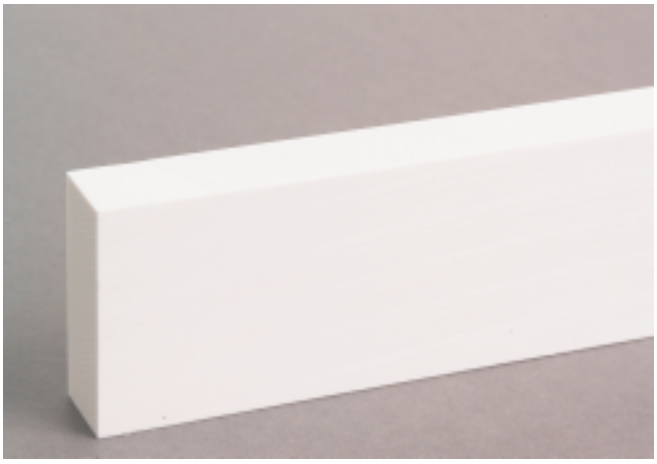
TECAFORM AH SAN and TECAPRO SAN
Safety for medical technology and food processing



TECAFORM AH SAN

Surgical tray made of TECAPRO SAN

Polyacetal TECAFORM AH SAN and Polypropylene TECAPRO SAN charged with an antimicrobial additive provide additional safety in medical technology and food processing. The antimicrobial effect is achieved by a gradual release of silver ions that create the following advantages:

- Reduced bacterial contamination during downtimes (higher state of cleanliness)
- Reduced formation of odour and biofilm on material surface
- Reduced formation of bacteria in critical points of the equipment
- Back-up in case of inadequate cleaning (additional safety for customer)
- Reduced discolouration/corrosion caused by microbes (improved optical characteristics)
- Homogeneous distribution of active component on material surface
- No migration of the active component (additional safety for customer)
- No toxicity of the active component, no toxic decomposition products (harmless to humans)
- Cleaning or minor abrasion of the surface will continously renew the antimicrobial effect
- No thermal damage in the usual application temperature range
- FDA conformity of raw material, colour pigments and the antimicrobial additive.

Preferred fields

Food processing, medical technology, sanitation, beverage industry

Applications

- Components for food processing machines (butchers shop, fish processing, poultry processing, bakery equipment, dairy equipment, etc.)
- Components for bottling and canning machines
- Frequently used components in official buildings (door handles, buttons of elevators, buttons on flushings, diaper changing tables, etc.)
- Buttons and handles in public transportation systems
- Water contact: water dispenser, ice machines, water treatment systems, filtration equipment
- Handles for surgical instruments

Special applications for TECAPRO SAN

- Surgical trays (for sterilization and storage)
- Kitchen equipment: counter tops, cutting boards, rolling pins
- Cooling, storage and handling of food

Standard values	Unit	TECAPRO MT	TECAPRO SAN
DIN-abbreviation		PP	POM-C
Density (ASTM D 792, DIN 53 479)	ρ g/cm³	0,92	1,41
Tensile strength at yield (ASTM D 638, DIN EN ISO 527)	σ_S MPa	35	55
Elongation at break (ASTM D 638, DIN EN ISO 527, ASTM D 1708 (a))	ε_R %		30
Modulus of elasticity, after tensile test (ASTM D 638, DIN EN ISO 527)	E_Z MPa		210
Modulus of elasticity, after flexural test (ASTM D 790, DIN EN ISO 178)	E_B MPa	1379	
Hardness (ball Indentation: ISO 2039/1, Shore D: ASTM D 2240, DIN 53 505 (d), Rockwell: ASTM D 785 , ISO 2039/2 (r), others: ASTM D 785 (a), DIN 43 456 (s))	H_K MPa	100(r)	145
Impact resistance (DIN EN ISO 179, Izod: ASTM D 256, DIN EN ISO 180 (i), Charpy: DIN EN ISO 179 21, notch Impact strength: DIN 53 456 (k))	a_n kJ/m²	0,69 (i)	o.Br.
Melting point (DIN 53 736)	Tm °C	163	165
Heat distortion temperature (DIN 53 461) after ISO-R 75 method A	HDT/A °C	86	110
Maximum service temperature short term long term	°C °C	140 100	140 100
Coefficient of linear thermal expansion (23 °C, ASTM D 696, DIN 53 752, ASTM E 831)	α 10^{-5} 1/K		10
Volume resistance (ASTM D 257, EC 93, DIN IEC 60093)	R_D Ω · cm	$>10^{14}$	
Dielectric strength (ASTM D 149, IEC-243, VDE 0303 part 2)	E_d kV/mm	>40	
Moisture absorption at equilibrium 23 °C / 50% rel. humidity (DIN EN ISO 62)	$W(H_2O)$ %	>0,05	<0,3
Flammability acc. to UL-Standard 94		HB	HB

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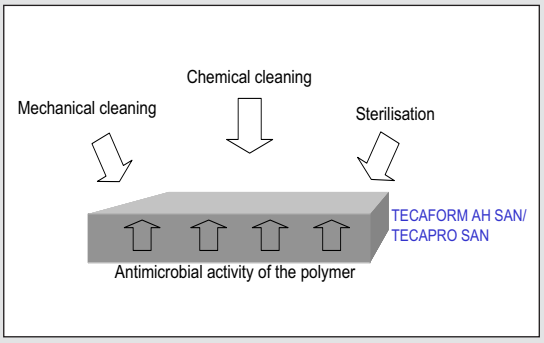
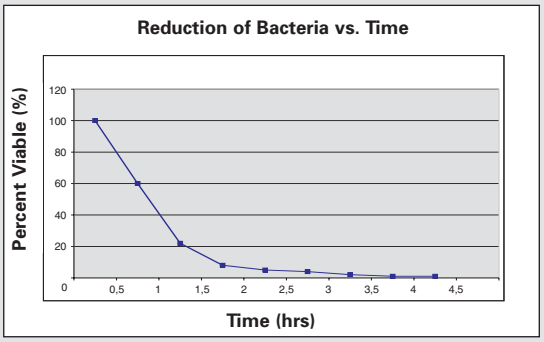


Every step of cleaning reduces the amount of microbes. The remaining bacteria after manual washing and sterilisation is removed by the antimicrobial effect.

Typical performance of antimicrobial surfaces on bacteria



Extreme chemical exposure (alkaline and acid solutions) can impact the antimicrobial effect on polymeric surfaces. Bacterial decay can be protracted by the application of antimicrobial products and thus it provides additional safety for the customer. However, usual and necessary cleaning practices should not be discontinued.

ENSINGER TECAFORM AH SAN and TECAPRO SAN are effective against a broad range of micro-organisms as bacteria, fungi, algae, viruses, etc. As they differ greatly in their living conditions and their impact, the antimicrobial performance needs to be analysed for the specific application to be able to give a pointed statement about antimicrobial effects under given circumstances.

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