

Gemini[®] Superamphiphobic Finishing for Textile

AnT-183

[Introduction]

AnT-183 is superamphiphobic finishing for textile, it is water based 1 part bake curing type. Combining ramified compact bonding with eco friendly and no PFOA and PFOS, it has ultra durability through home laundering, dry cleaning, tumble drying, ironing. The finishing fabrics have good handfeel and breathability, no chalk mark and no change of original color. It brings fabrics great protection from rain / oils, aqueous / oily stains (Cooking oil, Diesel, Pepsi, Juice, Tea, Vinegar, Wine, Milk, Cafe, Dirt water, Honey) and excellent resilience to abrasion, wear, meanwhile it has good sewability and mass production runnability. It is perfect for synthetic fiber like polyester, nylon, synthetic-cotton blends, natural fiber like cotton, wool, silk.

[Typical Properties]

Properties	Units	AnT-183
Solid	Wt%	25
Appearance	/	Whitish emulsion
Density	g/cm ³	~1.1
PH	/	4~6 (Can maintain PH level by adding acetic acid)
Ion type	/	Weak cationic
Solvent	/	Water
Baking Temperature / Time	/	80~120°C drying & 150~170°C bake curing 1~3mins

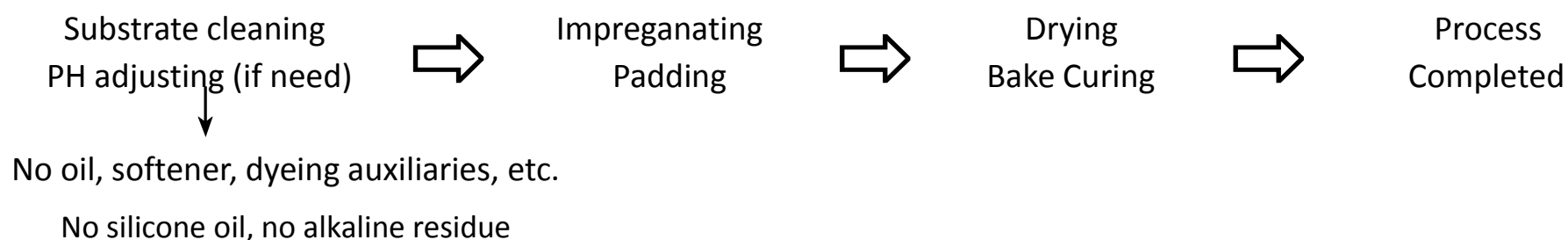
[Performance]

Test Item	Test Method			AnT-183
Water contact angle	10~20 μ L Water	Polyester		140° ~160°
Oil contact angle	10~20 μ L Hexadecane	Polyester		120°
Oil contact angle	10~20 μ L Hexadecane	Silk		60° ~70°
Water spray test	ISO 4920:2012			4~5 grade
Oleophobicity Grade	ISO 14419:2010			6~7 grade
Spray test after wash	ISO 6330:2012	50 wash cycles	ISO 4920:2012 Polyester	3~4 grade
Oil proof after wash	ISO 6330:2012	50 wash cycles	ISO 14419:2010 Polyester	6 grade

[Processing Method]

Dilution: Dilute by tap water 40 folds to approx 25g/L (Synthetic), or 20 folds to approx 50g/L (Cotton)
 Can increase the solid content appropriately according to the type and thickness of fabric

Standard automatic textile finishing flow: Fabric impregnation, Pad-Dry-Cure.



- After open, must use it up within 1 week, or it will crosslink
- Feeding sequence. First add tap water, then other additives/auxiliaries, last input finishing agent
- Add 0~1ml acetic acid (60%) per liter tap water into sink to maintain solution to acidic, slight bubbles flowing is normal, the solution system must maintain weakly acidic during the whole processing and not compatible with alkaline chemicals. Must use acidic additives
- For better amphiphobic effects, raising and sanding should be carried out before this finishing, and the fiber shedding rate of the fabric must be $\leq 1.5\%$. Some other mechanical finishing, such as calendering, brushing, etc. can be carried out after drying before bake. Steaming should be carried out after bake curing
- Cleaning pretreatment (if necessary). Before this fabric processing on the machine, the oil, softener, dyeing auxiliaries, etc. should be fully removed from the previous process. The fabric to be treated ought to be clean and free of alkaline residues. In particular, no protective materials such as silicone oil are allowed to remain on the surface. This is in case some fabric factories are coated with silicone oil to prevent yellowing before shipping out
- Fabric impregnation, Pad to reduce the wet pick-up. Make sure the solution completely wets the fabric during impreganating, certain wetting agent can be used (if needed). After the impreganating process, run the line through a padder to reduce the wet pick-up to 70~90%. Padder pressure setting is no more than 3 tons
- Dry、Cure. Adjust the drying / bake curing temperature and time appropriately according to the type and thickness of the fabric, must make sure the reasonable temperature and time setting of bake curing
 Drying conditions: 80~120°C to fully dry the fabric through the dryer line
 Bake curing conditions: 150~170°C for 1-3 minutes through the baking line

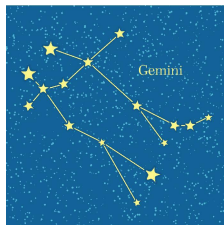
Attentions: The fabric finishing superhydrophobicity and washability are greatly related to bake curing. Please make some testing runs and adjust the machine setting to optimize your own production line

[Attention]

- During processing, avoid direct contact with the skin, using gloves and safety glass in the test. If skin contacts with products, immediately wipe with a dry cloth and then wash skin with soap and water, If eyes contact with products, immediately flush eyes with plenty of water for at least 5 minutes, and call a physician.
- Keep the container sealed and store between 5~35 °C , well ventilated locations, shelf life is 1 year, avoid freezing and overheating. After open, must use it up within 1 week, or it will crosslink.

[Packaging/Transport] 50kg,100kg plastic jug.

Not classified as dangerous in the meaning of transport regulations



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