

Service Report

Customer	FiberForce Italy Srl
Report no.	RES 2018/006
Internal ref.	J254
Report date	July 2 nd , 2018

1. Sample details

Date received	May 28 th , 2018
Description	PLA 3D filaments
Control	untreated PLA control sample
Sample 1	Fiber Force Antibacterial treated PLA



2. Test method

- » ISO 22196: antibacterial performance against *Escherichia coli* and *Staphylococcus aureus*

3. Results

a. Antibacterial performance (*E. coli*)

Sample ID	Bacterial count (CFU/cm ²)		Log reduction	% reduction
	t = 0h	t = 24h		
Control	1.4E+04	1.0E+05	-0.87	0.00
Sample 1	1.4E+04	1.2E+04	0.94*	88.43*

* Reduction calculated versus control at **t=24h**

b. Antibacterial performance (*S. aureus*)

Sample ID	Bacterial count (CFU/cm ²)		Log reduction	% reduction
	t = 0h	t = 24h		
Control	1.6E+04	4.2E+03	0.58	73.54
Sample 1	1.6E+04	1.7E+01	2.37*	99.59*

* Reduction calculated versus control at **t=24h**



4. Conclusion

An analytical determination of all samples has been performed prior to the biological tests (data not shown), and indicate very accurate dosing of the antimicrobial additive. The antibacterial test ISO 22196 reveals excellent performance of sample 1 (>99% bacterial control) against *Staphylococcus aureus*, and high activity (~88% reduction) against *Escherichia coli*.