DIVISIONE: *DIVISION:*	**TESTING-CERTIFICAZIONE**	LABORATORIO: *LABORATORY:*	**Food**

	RAPPORTO DI PROVA *(Test report)* N° 0202\FPM\FOOD\18	Pag. di/*of page* Data: *Date:*	1 4 13/07/2018

IDENTIFICAZIONE E DESCRIZIONE DEL CAMPIONE:
SPECIMEN DESCRIPTION:

Plasters for mycosis – REF. 40V
LOT DIC-17

Antimicrobial efficacy test according to ASTM E 2180

DATI IDENTIFICATIVI DEL CLIENT:
CLIENT:

DO TOBELL Srl
Via dell'Artigianato, 32
36030 – SARCEDO (VI) – Italy

NORMA DI RIFERIMENTO:
REFERENCE STANDARD:

ASTM E 2180-07 (*see following details)*

DISTRIBUZIONE ESTERNA: *OUTSIDE DISTRIBUTION:*	DISTRIBUZIONE INTERNA: *INSIDE DISTRIBUTION:*
DO TOBELL Srl **IMQ S.p.A.**	Copy: Division Manager

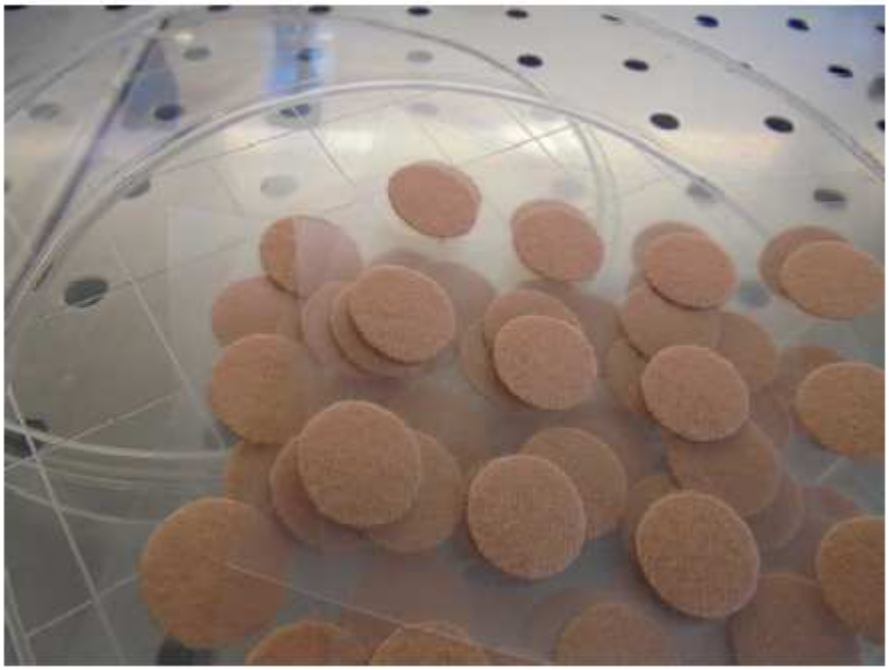
ENTE DI ACCREDITAMENTO:
ACCREDITATION BODY:

GENERAL DATA

- Sample receipt date: 26/06/2018
- Tests start date: 02/07/2018
- Tests end date: 12/07/2018
- Deviation from the test methods: YES

IDENTIFICATION OF THE EXAMINED SAMPLES

• Plasters against mycosis - REF. 40V - LOT DIC-17



SAMPLING AND COLLECTION

The initial sampling and collection were carried out by the Customer requesting the test.
From the samples present at the Laboratory, the quantities required for carrying out the tests were taken randomly.
As per Customer's directions, the adhesive material side was tested.

DECLARATION

The test results contained in this report refer exclusively to the tested sample.
This report cannot be partially reproduced without the authorization of the Center Manager.
Measurement uncertainty: the measurement uncertainties declared in this document are expressed as extended uncertainty, obtained by multiplying the standard

uncertainty by the coverage factor K corresponding to a confidence level of approximately 95%. Such K factor is equal to 2.

(°) Test performed by an external laboratory

DETERMINATIONS MADE

ACTIVITIES OF ANTIMICROBIAL AGENTS INCORPORATED IN POLYMERIC OR HYDROPHOBIC MATERIALS ACCORDING TO ASTM E 2180-07

This Standard aims at quantitatively evaluating the antimicrobial capabilities of additives incorporated or bound in surfaces made of polymeric or hydrophobic material.

Since the purpose of the test is the evaluation of the antifungal activity, the test has been set up – in agreement with the Customer - using exclusively the *Aspergillus niger* (ATCC 16404) fungal strain.
The test was not carried out for the bacterial strains provided by the Standard, i.e. *Staphylococcus aureus*, as representative of Gram positive bacteria, and *Pseudomonas aeruginosa* (or *Klebsiella pneumoniae*), as representative of Gram negative bacteria.

Suspensions of the *Aspergillus niger* fungal strain were used to inoculate the agar slurry, a vehicle of the inoculum that has the capacity to form a pseudo-biofilm, creating a greater contact between the inoculum and the surface of the specimens.
The specimens were incubated at contact with the agar slurry for 5 days at + 25°C.

The microorganism count was made by plating on Saboraud Dextrose Agar medium with incubation at +25°C for 5 days.

Neutral and untreated material without incorporated substances, supplied by the Customer, was used as control material.

The antimicrobial activity is expressed as a percentage of reduction of the fungal load.

RESULTS

• Plasters against mycosis - REF. 40V - LOT DIC-17

TESTED STRAIN	% reduction of microbial load
Aspergillus niger	99.6

CONCLUSIONS

The ASTM E 2180-07 Standard does not provide a grid - or even at least a reference value – with which to compare the obtained value of *% reduction of the microbial load*,

in order to be able to state that the tested material performs (or not) an antimicrobial activity.

However, the detected value is such that it is possible to observe that towards *Aspergillus niger* the tested material **Plasters against mycosis - REF. 40V - LOT DIC-17** determines a very important reduction of the fungal load, greater than 99%.

DATA *Date*	Settore Food Packaging Materials *Food Packaging Materials Sector*	B. U. Prodotto *B. U. Product*
13/07/2018	Alberto Taffurelli	Ing. P. Fumagalli

Document digitally signed in accordance with the Italian Legislative Decree No. 82 of 7 March 2005 and subsequent amendments