Combating Black Winery Mould

Fiera Group Australia Topics for discussion and consideration

Thin film technology the engineered answer to address Black Mold growth on and inside Australian Wineries.

1/. Unanswered events surrounding Black Mold on modern winemaking structures 1970 to 2012

Refer Photos No 1 + A+B +C

2/. Conclusions and methods allowing initial design of and selection of the correct thin film coating

Refer Photos No 2

Refer Photos NO 3 + A

3/. The 2013 trial site , method of trail and observations Explain test area then proceed to Video

Refer Photos No 4 + A

Link to U Tube Wipe test

4/. Supporting Theories , conclusions and observations relating to mold arrival , mold and bio film formation , current practices to explain why Mold reoccurs and what must be avoided addressing mold in the wine industry. Poisons, Chemicals and Silicones.

Refer Photos No 5 + A + B

5/. A brief outline of how the engineered product changed a surface mold once grew upon

Refer Photos No 6 + A + B

6/. Life cycle and engineering suitability. Batf China and Fiera group Australia

Refer Photos No 7 + A + B + C + QLV tester and standards it addresses

7/. Short term maintenance Verses long term comparisons .

Energy , Water Labour

Spread sheet No 8

If time permits present results P 1 to 8

1A

1B

1C

2,

3

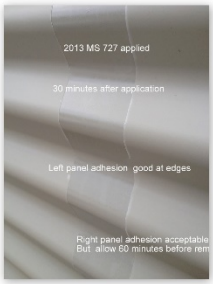
3A

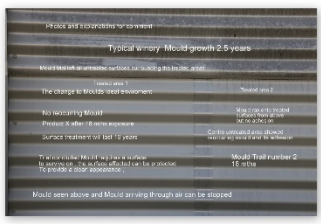
If you were asked how to stop Mold

Where would you start ?

When it became obvious or when it was invisible?

4





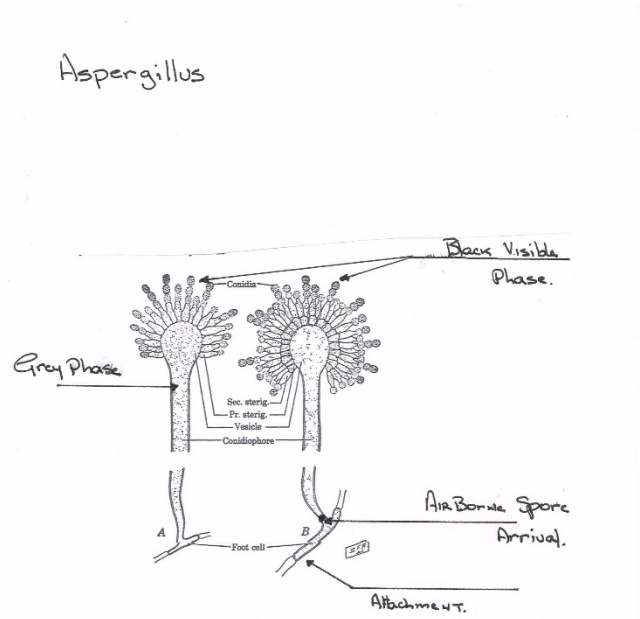
3,

4A

2013

2018

5



5A

Observed Mold Growth and Cleaning cycle

Mudgee NSW

Acceptable period

Clean

Un Acceptable Period (Grey or Black)

Mold

2011

Jan	Feb	March	April	May	June	July	August	Sept	Oct
Black	Black	Black	Black	Black	Black	Black	Black	Pressure wash	Pressure wash
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach
Pr Sterig+ Sec Sterig	Pr Sterig+ Sec Sterig	Pr Sterig+ Sec Sterig	Pr Sterig+ Sec Sterig	Pr Sterig+ Sec Sterig	Pr Sterig+ Sec Sterig	Pr Sterig+ Sec Sterig	Pr Sterig+ Sec Sterig	Condiophore	Condiophore + Foot cell

2011 / 2012

Nov	Dec	Jan	Feb	March	April	May	June	July	August
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Grey	Grey
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach
Condiophore + Foot cell	Condiophore + foot cell	Condiophore + foot cell	Condiophore + foot cell	Vesicle	Vesicle	Vesicle	Vesicle	Vesicle + Pr Sterig	Vesicle + Pr Sterig

2012 / 2013

Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Grey Black	Grey Black	Black	Black	Black	Black	Black	Black	Black	Black
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach
Vesicle + Pr Sterig	Vesicle + Pr Sterig	Pr Sterig+Sec Sterig	Pr Sterig+Sec Sterig	Pr Sterig+Sec Sterig	Pr Sterig+Sec Sterig	Pr Sterig+Sec Sterig	Pr Sterig+Sec Sterig	Pr Sterig+Sec Sterig	Pr Sterig+Sec Sterig

5B

MS 727 Observed Mold Growth cycle

Mudgee NSW

Acceptable period

Clean Test period

Reapplication Period , cured depth .48 Um , start eroding coating at 6.8 um / year Life cycle 7.05 years

MS 727

Jan	Feb	March	April	May	June	July	August	Sept	Oct
Black	Black	Black	Black	Black	Black	Black	Black	Pressure wash	Pressure wash
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach
								Condiophore or spore arrival on MS 727	Disturb Early condiphore attachment

2012 / 2013 Apply 727 Feb 15Th 2013

Nov	Dec	Jan	Feb	March	April	May	June	July	August
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach

2013 / 2014

Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach

2014 / 2015 Reapply over test area Sept 11th 2015

July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	April
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach

2015/ 2016

May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach

2016/ 2017

March	April	May	June	July	August	Sep	Oct	Nov	Dec
Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean	Clean
Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach	Attach

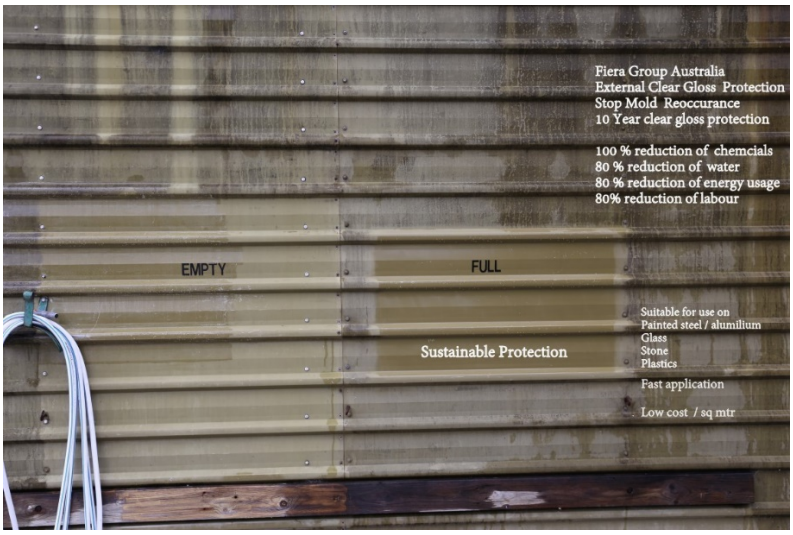
2017/2018

6,

6A

Fiera Group Australia
MS 727 TRIALS 2016 TO 2017
What is shown here was a area
of mold purposely left
But MS 727 applied over it
We did this to prove the black mold held in position by biofilm
was suspended from growing again
09/07/2017

6B


Fiera Group Australia
External Clear Gloss Protection
Stop Mold Reoccurance
10 Year clear gloss protection
100 % reduction of chemcials
80 % reduction of water
80 % reduction of energy usage
80% reduction of labour
EMPTY
FULL
Sustainable Protection
Suitable for use on
Painted steel / alumilium
Glass
Stone
Plastics
Fast application
Low cost / sq mtr

7

Pre MS 727
Washed only
Post Ms 727
MS 727 with
color added

Common QUV Test Cycles

The QUV conforms to a large number of national, international and industry specifications, including but not limited to:

- ASTM D4799
- ASTM D6662
- ASTM G154
- ASTM D4587
- EN 927-6
- ISO 11507
- ISO 4892-3
- SAE J2020
- J15 K 5600-7-8
- AATCC TM186

Test specimens are mounted on both the front and back side of the QUV, providing a large sample capacity.

Versatile Specimen Mounting

Easy-to-use specimen holders adjust for any thickness up to 3/4" (20 mm) and allow fast, snap-action specimen mounting. Retaining rings provide positive hold-down and do not require that test specimens be cut to close tolerance. In addition, custom holders are available for mounting various products, such as lenses and 3-D components.

Specimen Mounting

Specimen Holders

- 2 flat panels per holder
- Standard size 3" x 6" (75 mm x 150 mm)
- Mount 3-D parts with special holders
- 4"x 6" (100 mm x 150 mm) also available

Specimen Capacity

- 48 standard size specimens for QUV/se, QUV/spray and QUV/cw
- 50 standard size specimens for QUV/basic

The QUV can accommodate a variety of 3-D specimens, including automotive parts, lenses, bottles and CDs.

P1

MS 727 Feild Trial result

2011 to 2016

Fiera Group Australia , 2009 to 2017 09/07/2017

P2

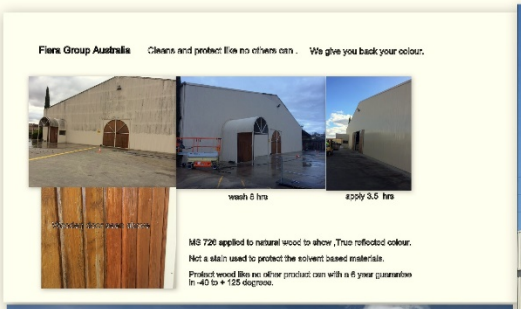
P3

P4

P5

Early morning inversion and steam from frost
Ideal mold growing conditions Mudgee Australia
Walls coated in 2015
09/07/2017

P6



2013
to
2017