

POOL LINERS

WILL DANDO FISPE

SWIMMING POOL LINERS

WHAT CAN GO WRONG?

A GUIDE FOR POOL ENGINEERS TO TROUBLE SHOOT
PROBLEMS BEFORE AND AFTER A LINER IS FITTED.

Presented by Will Dando FISPE

POOL LINER PROBLEMS

WILL DANDO FISPE

WHERE CAN IT GO WRONG?

- CUSTOMER EXPECTATIONS
- PRODUCT CHOICE AND SPECIFICATION
- POOL SHELL & SITE SURVEY - MEASUREMENTS
- LINER DESIGN
- MANUFACTURE, PACKING AND TRANSPORTATION
- PREPARATION & FITTING
- USE & CARE OF POOL

1
Post Fitting
Creases

2
Post Fitting
Leak

3
Pattern
Fault

4
'Patches' on
the floor

5
Weld Lines

6
Marks on
Beading

8
Fast/Slow
Leak

7
Dark
Patches

9
Waterline
Marks

10
Creases

11
Wrong
Liner

CUSTOMER EXPECTATIONS

- WHAT ARE THEY TRYING TO ACHIEVE?
- WHAT IS THE BUDGET?
- COMMUNICATION
- CONFIRMATION
- THIN FOIL PVC LINER – IS..... IS NOT.....
 - PACK-A-MAC
 - NOT BARBOUR JACKET!

PVC MATERIAL

- P.V.C. - POLY VINYL CHLORIDE
- 0.40-0.80MM – (0.50-0.75MM)
- PROTECTIVE COATING
- ADDED ALGAECIDE & ANTI-OXIDANTS
- TEMPERATURE LIMIT : 29°C (84°F)
- DOMESTIC BATHING LOAD
- WATER TO SPATA STANDARDS

THIN PVC LINER LIMITATIONS

- NOT DOMESTIC
- HEAVY USE EXPECTED
- OVER COMPLICATED
- OLD CONCRETE POOLS
 - SWEPT JOINS
 - LARGE COVES
 - BOWL-LIKE HOPPER



POOL SHELL SURVEY

- NOT JUST DIMENSIONS
- IS IT BUILT AS A LINER POOL?
- COMPLICATIONS
- CONDITION
- DIMENSIONS
- COMMUNICATION

LINER DESIGN

- SHAPE & SIZE ALL FROM SURVEY
- STANDARD REDUCTION?
- CANNOT ALLOW FOR THE UNKNOWN
- CLARITY
- SPECIAL REQUIREMENTS
- COMMUNICATION

MANUFACTURE & PACKING

- UNDERSTANDING THE SYSTEM
 - 3D POOL IS REDUCED, SLICED & FLATTENED
 - ALL AUTOMATED
- OUTSIDE AFFECTS
 - TEMPERATURE
 - HANDLING
 - FINISHING
 - STILL A SKILLED JOB

MANUFACTURE & PACKING

- WELDING
 - CORRECT SETTINGS
 - CORRECT ALIGNMENT
 - TENSION DURING WELD
- CAUSES OF WELD FAILURE
 - CONTAMINATION
 - FLASH-OUT

MANUFACTURE & PACKING

- PACKING
 - VISUAL CHECK
 - MANUAL PHYSICAL CHECKING
 - STRICT FOLDING & BOXING PROCEDURE
- SHIPMENT
 - DOUBLE WRAPPED
 - TRUSTED COURIERS



BACK ON SITE

PREPARATION & FITTING

- CLEAN & DISINFECT
- HANDLE WITH CARE
- FIT METHODICALLY – STEPS FIRST
- HOLD & CHECK WITH VACUUM
- RE-FIT IF NOT 100% HAPPY
- START TO FILL
- **CUT.**



FINISHED!

- Survey pool
- Specify product
- Order Liner
- Fit the Liner
- Handover
 - Running Instructions
 - Care & Maintenance Instructions

====The End=====

END CUSTOMER USE & CARE OF POOL

- KNOW YOUR WATER
- KNOW LIMITATIONS OF YOUR LINER
- MAX OBSERVATION / MIN INTERVENTION
- DON'T BE AFRAID TO CALL/CHARGE
- TRAINING/ CORRECT HANDOVER
- COMMUNICATION

- =====Not the End=====
- Immediate Call Back
- Problems during later use

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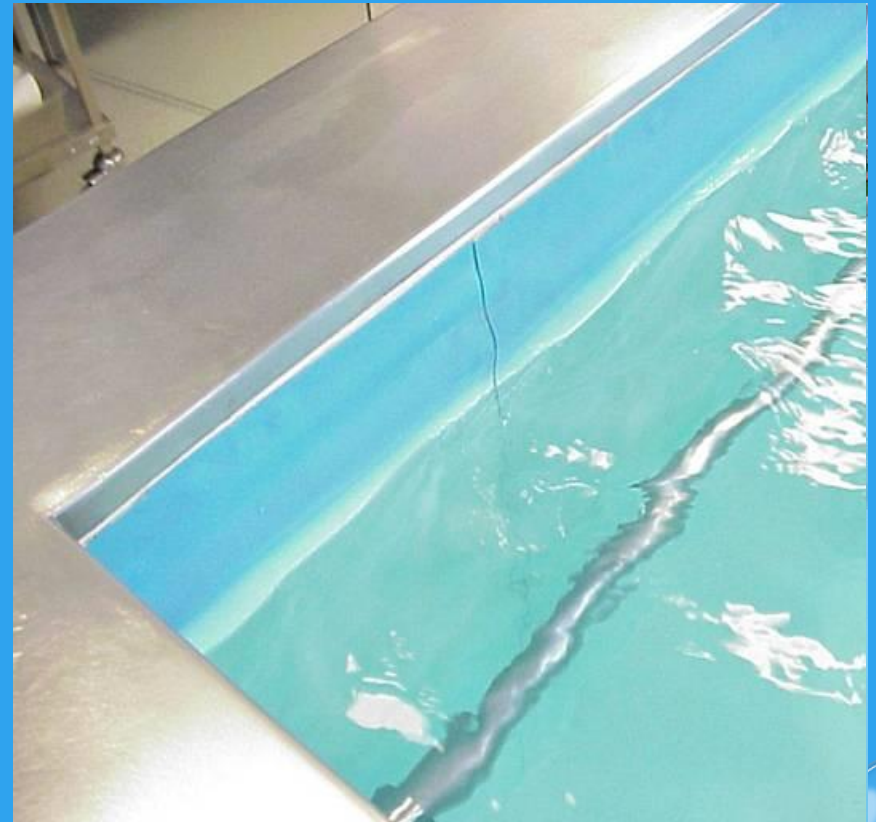
10
Creases

11
Wrong
Liner

- Immediate Call Back
 - Creases
 - Leaking
 - Marks
- Problems during later use
 - Creases
 - Leaking
 - Marks & Staining

STAINING & BLEACHING

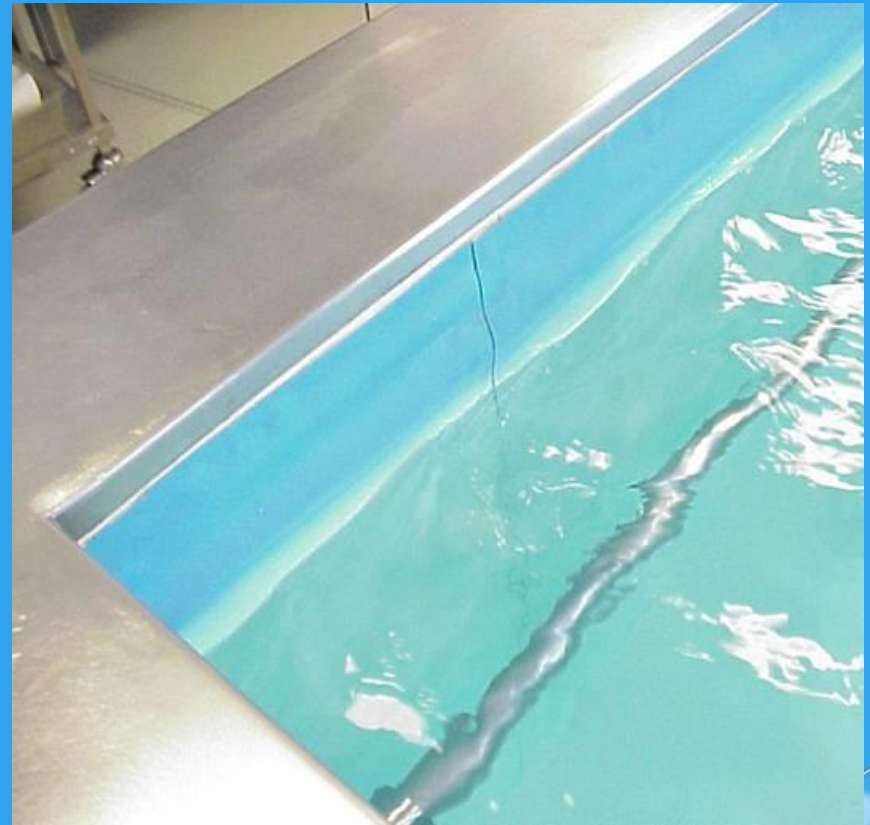
- METALS & MINERALS
- ALGAE
- OILS & CLEANING PRODUCTS
- BLEACHING



STAINING & BLEACHING

BLEACHING

- IS BLEACHING
 - IS BLEACHING
 - IS BLEACHING!



STAINING & BLEACHING

BLEACHING

- IS BLEACHING
 - IS BLEACHING
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STAINING – USUALLY 1 OF 3 THINGS

- Metal or mineral based
- Organic/Nitrogenous natural staining
- Petroleum/oil based

Metal or mineral based

- Dissolved using acid.
 - Mild – Spirit vinegar
 - Strong – 30-40% Hydrochloric acid

Petroleum/oil based

- Possibly removed using detergent but may need a solvent.
 - Mild detergent – household cleaners
 - Strong – Bio washing powder
 - or
 - Mild solvent – Isopropanol alcohol
 - Strong - Tetrahydrofuran (THF).
- Warning, stronger solvents will eat into the vinyl, removing the protective layer and/or pattern.

Organic/Nitrogenous natural staining

- Bleached out/affected by Chlorine.
 - Topping up the pool above the stain, checking and balancing the water, then shock dosing is a good course of action.
 - Only once the cause has been determined.

- My suggestion would be to try a very small inconspicuous patch no more than a couple of cm wide starting with the mild products in each of the three categories
- This determines what you are dealing with which will decide the course of action

FITTING & CREASING

- FORCE TO MOVE LINER – ABILITY
 - UNEVEN TENSION
 - HEAT
 - WATER ABSORPTION
 - FLOTATION
-
- LACK OF FRICTION – OPORTUNITY
 - WATER TABLE
 - CONDENSATION, WATER MIGRATION

FITTING & CREASING

- LINER TRAMP / CRESCENT CREASES
- WRINKLES ON FLOOR
- FOLDS AND CREASES - FLOAT

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CREASING

- WHEN IS A CREASE JUST A RIPPLE?
- LINER NEEDS TENSION
 - LITTLE OR A LOT
 - MUST BE EVEN
- LET A LINER SETTLE FOR FEW MONTHS
- CUSTOMER EXPECTATION

RECOGNISING CREASING TYPES

- LINER TRAMP
- PRUNING
- LINER FLOAT





POOL LINERS

QUESTIONS?

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Thank you

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