

# How to paint like a professional



## HOW TO RECOGNISE AND TREAT OSMOSIS

**THE MAIN SYMPTOM, 'BLISTERS'** – Blisters are the most common warning sign and if identified should be followed up with immediate professional examination. Blisters can vary from small pinhead blisters, to areas as large as the palm of a hand. The presence of any fluid behind a blister indicates a potential problem. If the fluid has a pungent, vinegary odour or feels greasy or sticky when rubbed between the thumb and forefinger, there is a high probability of osmosis. Before any treatment is carried out, you need to establish what has caused the problem. We recommend that you seek the advice of a professional surveyor.

Some blisters occur for reasons other than osmosis. They are often evident as a rash of small pinhead blisters or swellings, either locally (often around the water-line) or over the entire underwater area. These blisters are hard and difficult to break and when broken open will be dry, with no odour evident. The likely cause is air voids. This is not a serious problem, but hull moisture levels should be checked before commencement of any remedial treatment.

### OTHER WARNING SIGNS TO LOOK FOR ARE –

**STAR CRAZING** – This effect can occur where the gelcoat is brittle. Fine cracks usually form due to severe flexing or impact damage, allowing water to seep into the laminate.

**PINHOLES** – Tiny bubbles present in the gelcoat reduce its effectiveness and promote rapid water absorption.

**PROMINENT FIBRES** – Seen protruding beneath or through the gelcoat and can cause 'wicking' where water is drawn into the hull by capillary action.

**UNDERCURING OF THE GELCOAT** – Incorrect mixing or application in unsuitable conditions can cause failure to cure properly. This results in porosity and may lead to water ingress.

WHAT TO DO IF OSMOSIS DOES OCCUR	
1	<b>PROPER PREPARATION OF THE GELCOAT</b> This includes getting all of the antifouling paint and primers off and removal of as much gelcoat as necessary to get the hull dry (i.e. the entire gelcoat or just small areas). A professional, who has looked at your boat, should make this determination.
2	<b>DRYING OF THE HULL</b> This is the most critical step in the process. If you do not get the hull dry it will re-blisten. We recommend a comprehensive washing and drying procedure.
3	<b>APPLICATION OF GELSHIELD® PLUS</b> This solventless epoxy seals up the laminate and fills any cloth that has been voided of resin. It provides a water barrier to minimise the possibility of reoccurrence of damage. Contact the technical Help Desk to obtain a copy of the Gelshield Plus booklet.
4	<b>APPLICATION OF GELSHIELD® 200</b> This will act as a tie-coat to the antifouling.

RECOMMENDED OVERCOATING INTERVALS		
TEMPERATURES	PRIMING	
	Gelshield® 200 Coat-On-Coat	
	FIRST COATING OF ANTIFOULING	
5°C	10	6
15°C	5	6
23°C	3	6
35°C	2	6
<b>NUMBER OF COATS</b>	<b>5/6</b>	
	<b>1</b>	

KEY: Hours Months

## HOW TO PROTECT AGAINST OSMOSIS (BLISTERS)

Protection is always better than cure and it really does make sense to protect a new boat as well as an older craft. To achieve this protection it is necessary to sheath the hull with a water barrier to seal the surface. This is done over the existing gelcoat. There is no better time to apply an anti-osmosis system than when the boat has not yet been launched. Some boat builders now offer Gelshield® treatment from International as part of their production process, so it is worth finding out if this is the case. However, it must be stressed that protective systems cannot stop osmosis once it has started, or prevent it from occurring in poorly constructed hulls. It is important that a full check is undertaken before starting.

## OSMOSIS PROTECTION SCHEME

STAGE	PRODUCT	GRP	WORK TIME*	OVERCOATING TIME**
CLEAN	Super Cleaner	YES	1	
ABRADE		180 grade	2-4	
PRIMER	Gelshield® 200	VC® Tar2	1	5 3
FILLER	Watertite (if needed)	YES		6
PRIMER	Gelshield® 200	VC® Tar2	3/4	1 5 3
ANTIFOULING TIE-COAT	Gelshield® 200	1	1	5 See product label
ANTIFOULING	International Antifouling	VC® Antifouling	2-3	1 See product label
<b>TOTAL PROJECT TIME:</b>			<b>2 WEEKENDS</b>	

KEY: No. of coats Minutes Hours Do not use for this purpose

\* Average time to apply one coat to average sized boat of 8m/25 feet.

\*\* Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15°C. Please consult product data sheets (available from International yachtpaint.com) for overcoating times at different temperatures. Data sheets may also be viewed via our website yachtpaint.com.