

# **BARRACUDA 10K B10K**

**SAFE REVOLUTIONARY CHEMISTRY TECHNOLOGY  
FOR BRICK AND MASONRY CLEANING**



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# What is Barracuda 10K?

Barracuda 10k is a safe, non corrosive, organic acid that dissolves mortar smear, it's a new patented environmentally friendly product that biodegrades in 10 days

This revolutionary base chemistry replaces highly toxic and corrosive acids and has proven results on building sites throughout Australia

**lets see why.....**



# How does Barracuda 10K work?

B10k is a super charged hydrogen ion solution with slow release properties that dissolves 15% more concrete than HCL, it's a bigger molecule than HCL therefore its not as aggressive or harmful to people or bricks

B10K is a synthetic acid that is non toxic, non fuming and non corrosive, it has more hydrogen ions than HCL but is more gentle, reduces mortar damage, acid burn and doesn't react to attack surfaces or skin

## the features & benefits.....

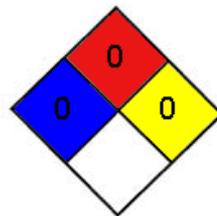
# B10K Environmental Benefits

- ✓ Mitigates damage to the environment
- ✓ Non corrosive
- ✓ Non fuming.....no toxic acid mist in the atmosphere
- ✓ No transport or storage risks to the environment
- ✓ Non toxic to people, plants or landscape
- ✓ 100% Biodegradable
- ✓ At least 6 million litres of HCL damaging the environment in NSW & VIC alone!!!



# B10K OH&S Benefits

- ✓ No specialised protective clothing required
- ✓ No 'white space' required.....better build flow
- ✓ Safe on skin.....eliminates acid burns
- ✓ Non fuming.....no toxic acid mist to inhale
- ✓ No transport or storage risks
- ✓ Non DOT regulated
- ✓ Safe on unionised or commercial sites
- ✓ Non toxic
- ✓ Triple zero HMIS score



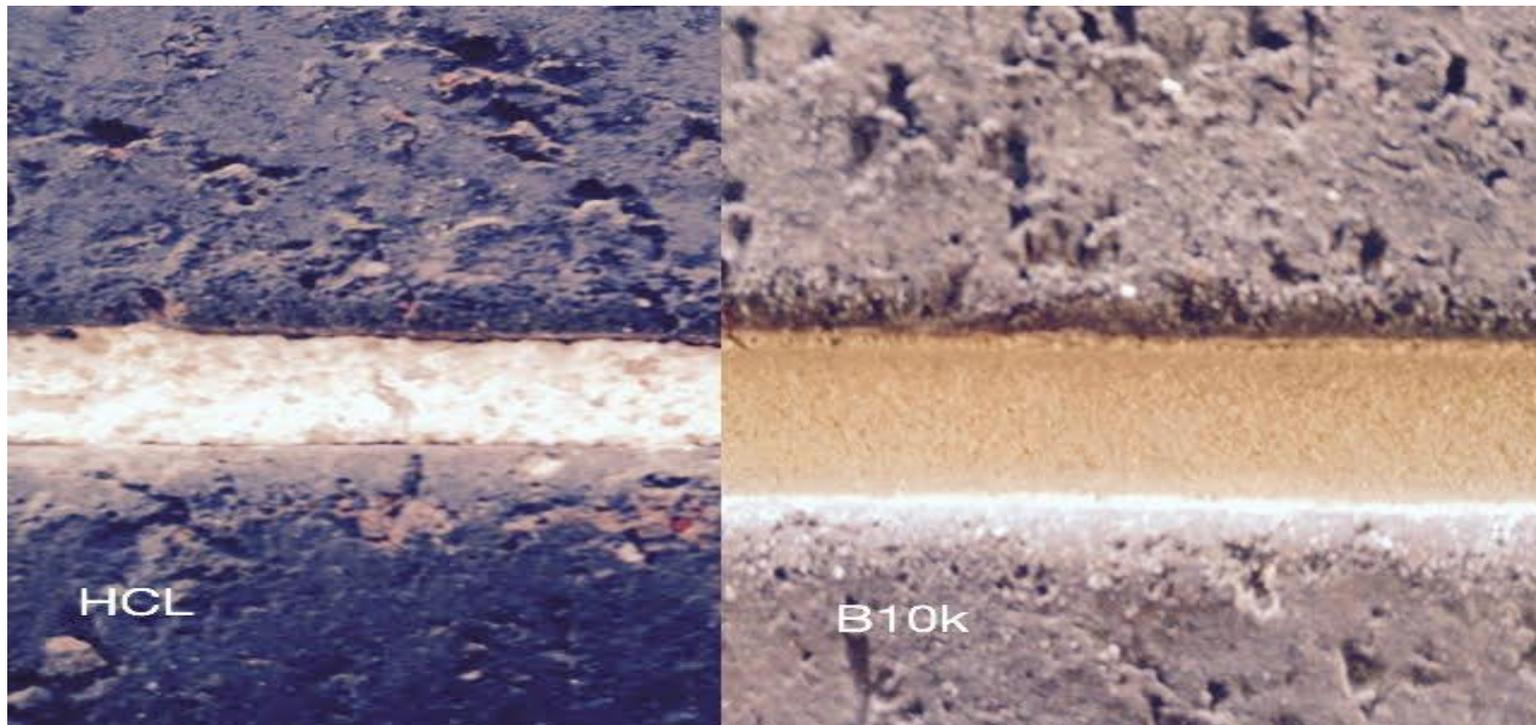


# B10K Brick, mortar & metal benefits

- ✓ Leaves mortar beds intact
- ✓ No discoloration
- ✓ Safe even when undiluted
- ✓ Non corrosive
- ✓ Minimises warranty claims
- ✓ Safe on paint, glass, copper, zincalume, timber, screws, nails and joinery hardware

# B10K Brick, mortar & metal benefits

- ✓ Leaves mortar beds with no discoloration



# Great mortar beds means great results.....

Example of clean  
brick laying



Great end results  
with B10K!!



**Before B10K clean**



**After B10K clean**



# **To get the best end result for bricks with B10K**

On this journey we have had different challenges in each state which has helped us better understand mortar and bricklaying practices and the advantages Barracuda 10K

We have discovered that plasticiser and poor bricklaying practices inhibit effective cleaning with HCL OR B10K. and we now better understand what can be achieved with better controls.

We are working with builders to prepare quality controls and scope of work docs as well as brick manufacturers and brick layers to help contribute to better quality controls.

## **Some chemistry to help understand.....**

## **6 Rules to get the best results.....**

1. Use lime where possible - don't use chemical plasticisers
2. Always use a 6:1:1 thoroughly mixed mortar and the same MPA for the entire job
3. Bricks should be laid as per best practice and manufacturers guidelines
4. Pointing should be cut and dry brushed
5. Remove all scaffold splatter from the bricks and all mortar droppings on the wall & the slab
6. Cover top course in wet weather to stop bricks staining

## **Some chemistry to help understand.....**

# Why use plasticisers - 5 reasons

- ✓ To increase mortar workability
- ✓ To increase the number of bricks laid per mortar batch
- ✓ To extend Mortar batch life when on boards
- ✓ Improve use with sharp sands
- ✓ Cheaper than Lime



## Some other reasons for plasticisers.....

- ✓ Habit
- ✓ Lack of knowledge
- ✓ As a hardener
- ✓ Water reducer
- ✓ Lime replacement
- ✓ More cost effective
- ✓ Training

# Components in Plasticisers

- ✓ **Surfactants** – Bubbles and aeration
- ✓ **Polar chemicals** – Repel fluids and lubricate
- ✓ **Cross linking chemicals** – bond and constrict
- ✓ **Adherence agents** – make it all stick

# Surfactants in Plasticisers

Used to extend mortar batch life and make it “fluffy” but the consequences are:

- Micro bubbles in mortar
- Less water use which results in.....
- Harder and more brittle Mortar
- Brick damage - cracking
- Water condensation
- Excessive Slump

# Plasticiser workability agents

These are generally Polar Chemicals to help lubricate mortar

- ✓ Polar Bonds used to do this so they repel each other
- ✓ Active sites - these bond and constrict when mortar sets
- ✓ Consequences : Waterproofs mortar:
  - Prevents acid and water from reaching cement
  - Acid washers over treat with HCl and high pressure to clean
  - THE END RESULT IS MORTAR BED & BRICK DAMAGE

# Adherence agents in Plasticisers

*Glues so the products works the same as Lime*

- Strengthen bonding – bricks, sand, smear
- Hold matrix together
- Makes everything stick

# Adherence agent issues

1. Can only remove small layers each wash
2. Use excessive pressure to break through the “glues”
3. Make it hard to remove sandy mortar from brick face
  - Multiple coats of acid and pressure wash passes or scraping is required as it removes in layers because acid cant penetrate effectively
4. Much harder to remove mortar smear
  - Leaves edges round bricks
  - Worse on smooth faced bricks
  - Sand stays on surface – pressure wash not effective and damaging
5. Bricklayers even have problems cleaning their tools and keeping the back of the trowels clean

***THE END RESULT IS MORTAR AND BRICK DAMAGE WHILE CLEANING***

# PLASTICISERS: Diagrammatically shown

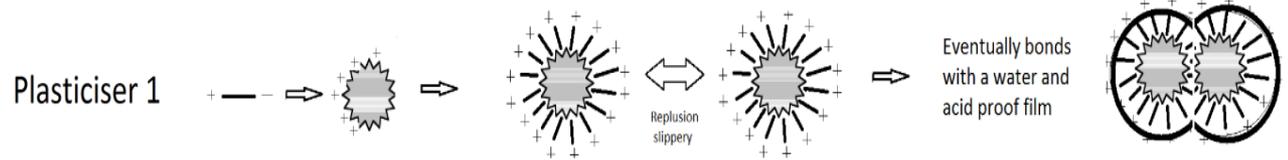
## Mortar components

 Water

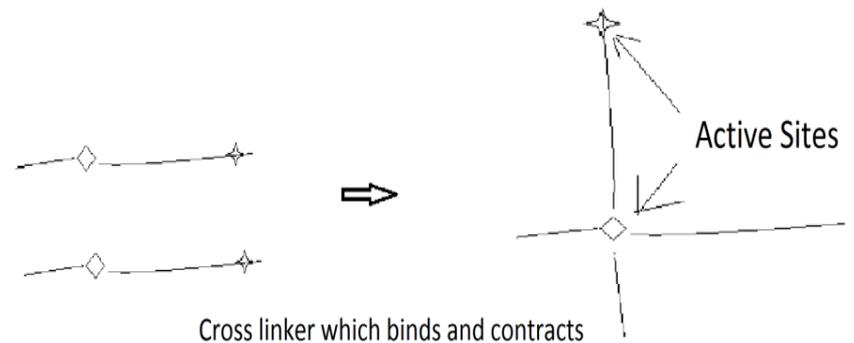
 Sand, Cement & Lime

 Air

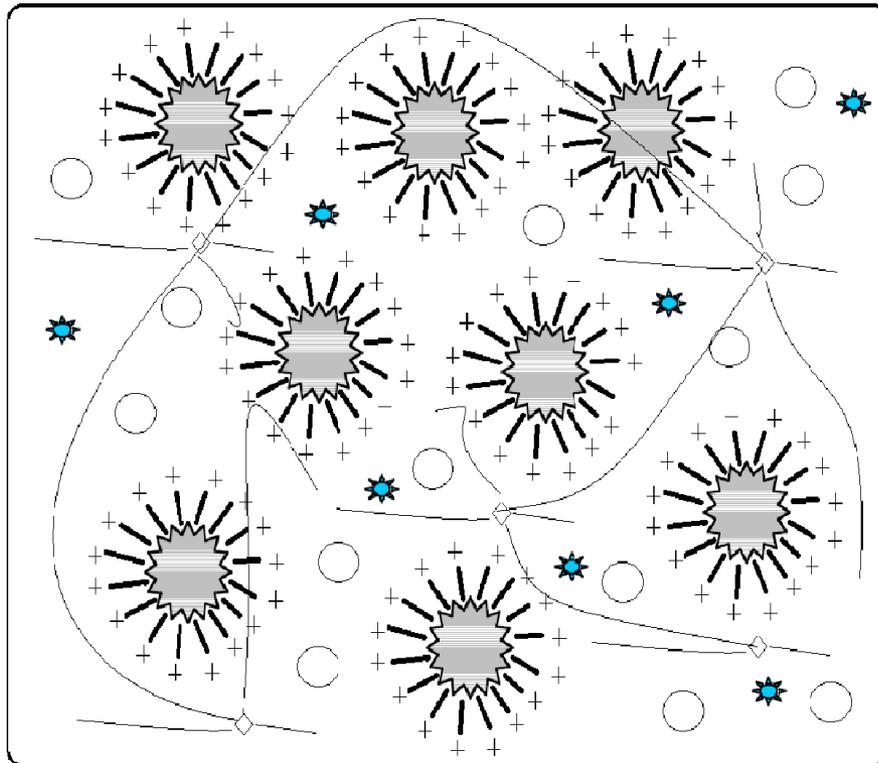
+ — — Plasticisers



Plasticiser 2



# PLASTICISERS after initial use.....



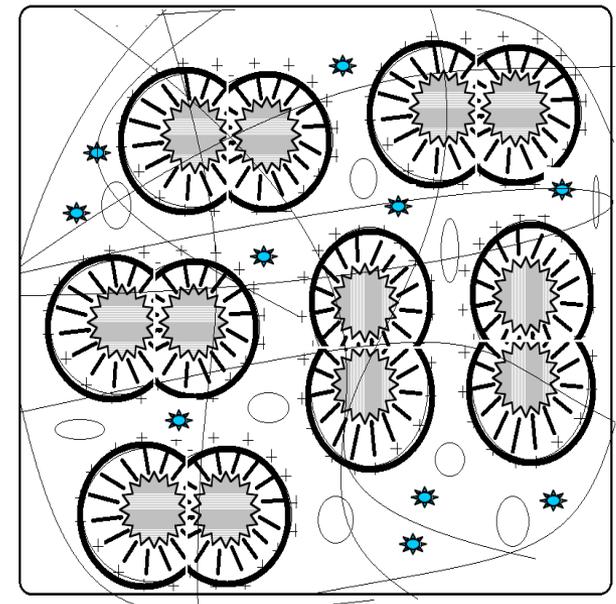
Contracts  
Shrinks  
Hardens  
Bonds  
Adherence  
to Bricks and  
everything



Mortar  
Appears  
like Plastic

Smear is acid  
&  
waterproof

Water and acid proof complex



# The advantages of lime.....

ENGINEERING RESULTS PROVE LIME IS STILL THE PLASTICISER OF CHOICE (after 2000yrs) AS IT IS:

1. *CLEANABLE*. Probably the most important issue for us.
2. *EQUALLY IMPORTANT*: Lime has better water retaining abilities that gives stronger bond strength, is self annealing, more elastic, has better compressive strength, less voids, minimises leaching and is non toxic. (cf Plasticisers)

## The following pics will show examples of.....

1. Perfect vs bad end results
2. Poor brick laying combined with plasticisers
3. Turbo
4. Excessive acid
5. Hard mortar
6. Smear
7. Scum
8. Shiny bricks

# Perfect vs bad end results.....

- ✓ Leaves mortar beds intact



# Examples of poor bricklaying



Mortar beds after multiple coats of acid needed to clean messy hard plasticised bricklaying



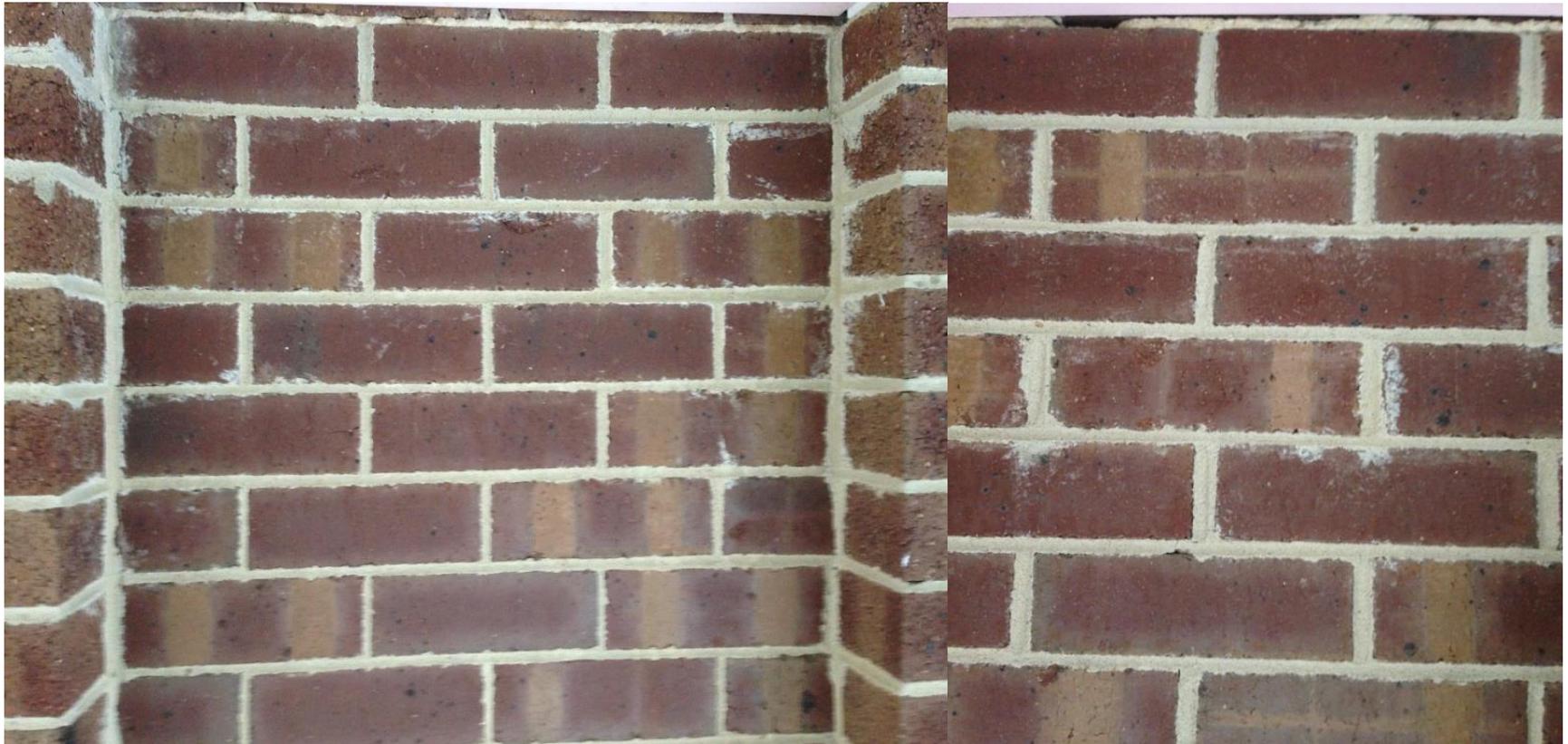
# Turbo damage to bricks when cleaning extremely hard plasticised mortar



# Damage from cleaning with a turbo head and multiple coats of acid



Plasticised smear is left after cleaning with a turbo and multiple coats of acid



Scum from excessive high doses of acid to  
remove plasticised mortar



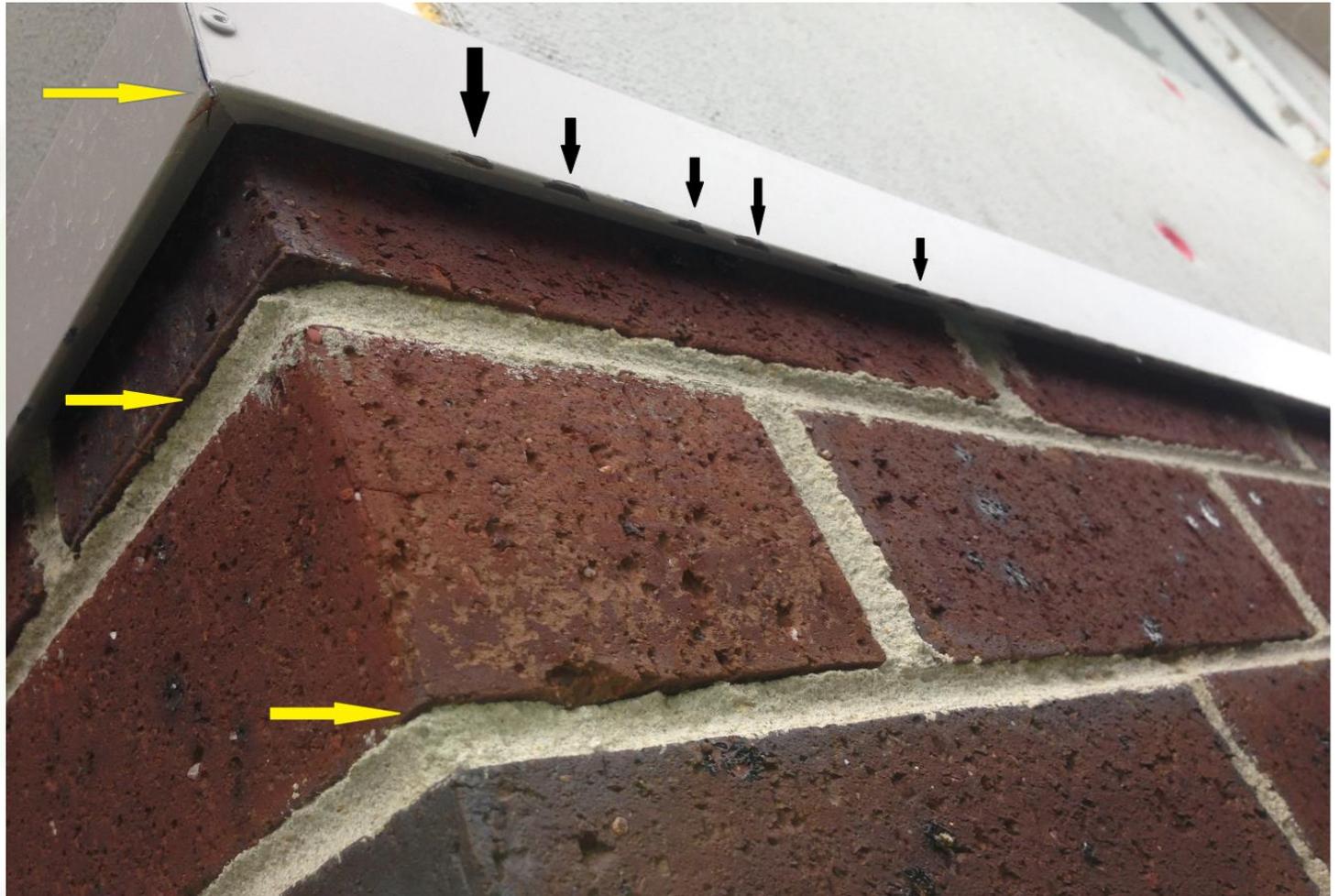
# Plasticised smear from Sponging – difficult to remove



Plasticised mortar causes hard to remove smear  
and more acid will ruin these mortar beds.



## Effects on mortar beds & capping after high concentrations of acid used



## **The consequences are.....**

- HIGHLY CONCENTRATED ACID REQUIRED
  - Acid destruction of mortar beds – extremely common
  - This is not due to pressure washing – it is acid attack
- TURBOS NEEDED
- MULTIPLE ACID PASSES REQUIRED
- LEADS TO SCUM AND OTHER ACID STAINS

***If you have to remove 10-20mm of mortar off bricks with acid why do you think that you will not affect 10-20mm in the mortar beds?????***

***Its simply not Logical. So why do it ?***

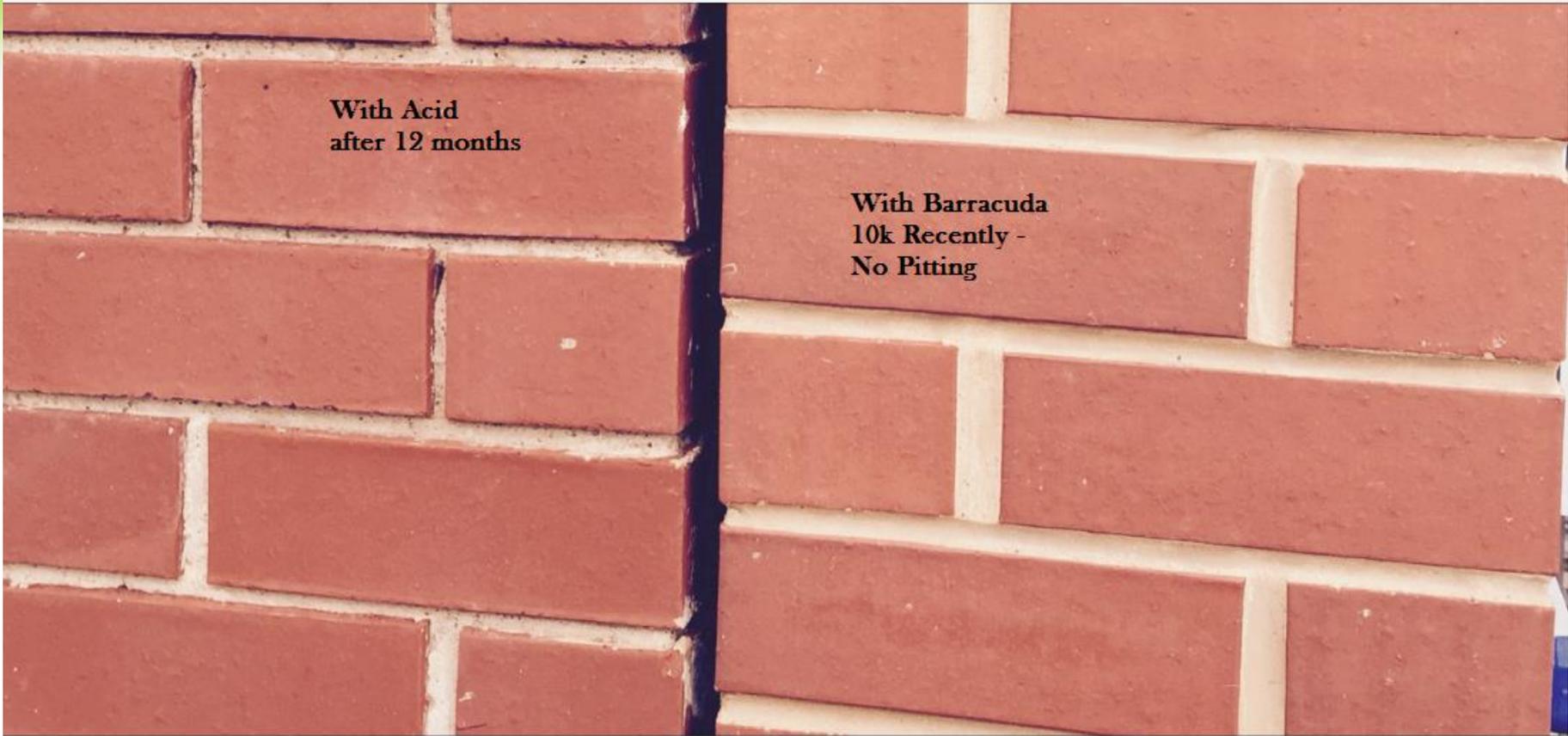
## Great end results with B10K



# Some examples of Barracuda 10K cleans before and after



# Perfect vs Poor – what's better for the industry



With Acid  
after 12 months

With Barracuda  
10k Recently -  
No Pitting

## **In summary.....**

There is clear evidence that with best practice in bricklaying, mortar mixing, masonry cleaning as well as site management we can collaborate to get the best end result for brick manufacturers, bricklayers, builders and most importantly the home owner.

***BARRACUDA 10k***

***“Better environments built brick by brick”***

# **Barracuda 10K Distributors**

**Safetec Solutions - QLD & NSW**  
**Acid free Brick & Cement Cleaning**  
**Company – Victoria**  
**Adelaide Surface Care – SA**

**QUESTION TIME**