NATIONAL PRECAST
CONCRETE ASSOCIATION AUSTRALIA

The Obelix Lifter:

Revolutionising Lifting

Parchem
- **Malcolm Nason**
- **Tim Bower**

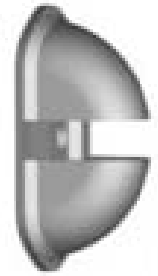
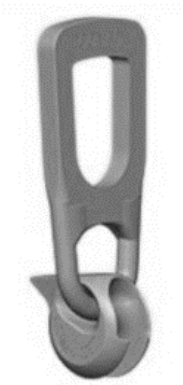
Members Meeting – Glenelg - 29th May 2015

parchem

OBELIX LIFTERS

THE TRADITIONAL SYSTEM

OBELIX LIFTERS

System	Insert		Recess Former		Lifting Clutch		Finishing
TRADITIONAL SYSTEM		+		+		+	 Grout Fill & Patch
	Steel (sacrificial)		Plastic (reusable)		Steel (reusable)		No System Solution

SYSTEM CONSIDERATIONS

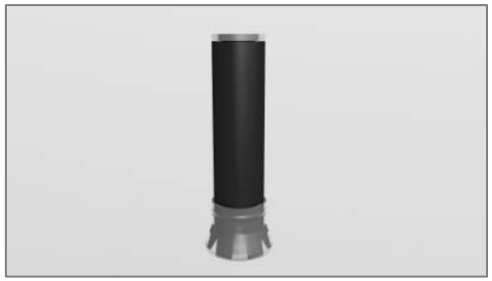
CONCRETE
- Strength Grade
- Cone Failure
- Cracking
- Splitting
- Side Face Blow Out
- Insert Pull Out

INSERT
- Tensile Strength
- Shear Strength
- Ductility
- Corrosion Resistance
- Concrete Cover
- Thermal Conductivity
- Embrittlement

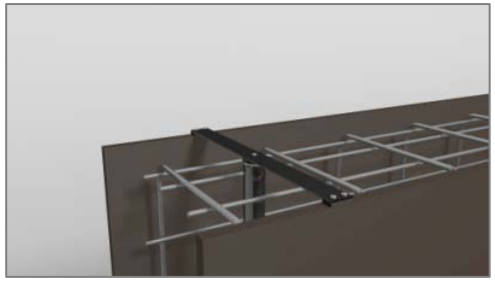
CLUTCH
- Tensile Strength
- Shear Strength
- Ductility
- Deformation
- Durability
- Certification

THE OBELIX LIFTING SYSTEM

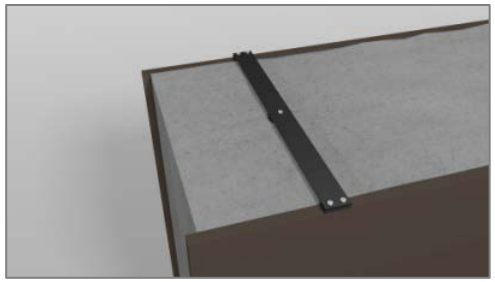
STEP 1
Select appropriate preassembled **Obelix Void Former.**



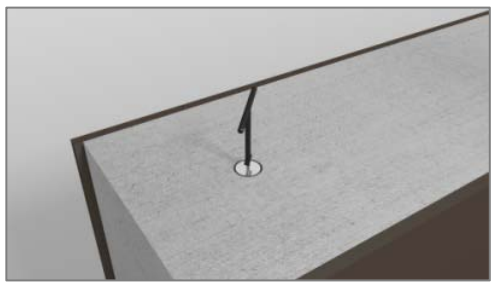
STEP 2
Fix **Void Former** to formwork. (Fastened via the threaded insert in the centre of the Removable Cap)



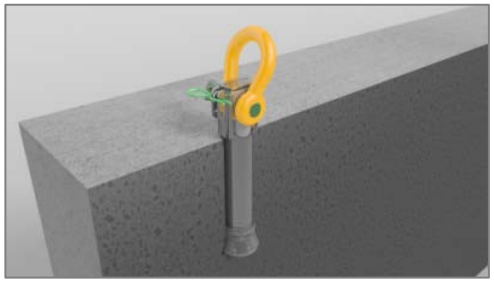
STEP 3
Cast concrete and cure.



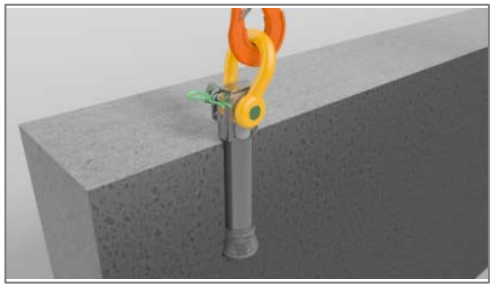
STEP 4
Using the **Extractor Tool** remove the **Retainer Cap.**



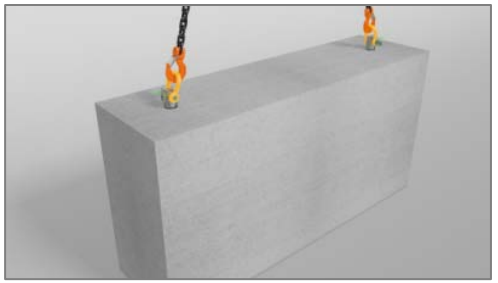
STEP 5
Insert and engage the Obelix Lifting Clutch.



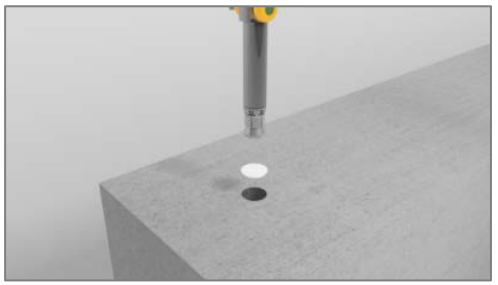
STEP 6
Attach lifting hooks.



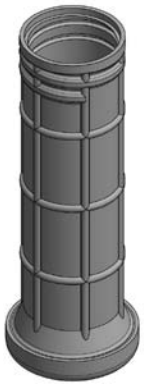
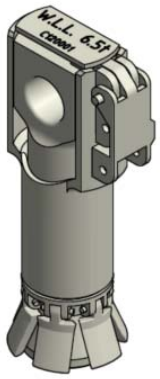
STEP 7
Lift .



STEP 8
On completion of lift disengage and remove Obelix Lifting Clutch and insert Plastic Finishing Cap.



THE OBELIX SYSTEM – Edge and Face Lifting

System	Void Former		Retainer		Lifting Clutch		Finishing Cap
OBELIX SYSTEM		+		+		+	
	Plastic (sacrificial)		**Plastic (reusable)**		**EN26 Alloy Steel (reusable)**		**Plastic**

SYSTEM CONSIDERATIONS

CONCRETE
- Strength Grade
- Cone Failure
- Cracking
- Splitting
- Side Face Blow Out
- Insert Pull Out

INSERT
Not Applicable

CLUTCH
- Tensile Strength
- Shear Strength
- Ductility
- Deformation
- Durability
- Certification

OBELIX LIFTING SYSTEMS - APPLICATIONS

Constrained Demolition
In circumstances where key infrastructure, such as airports, rail/ road bridges and over passes, utilities, municipal functions, schools, shopping centres and hospitals, need to continue to operate during peak times, the *Obelix Lifting System allows these jobs to be completed with* minimal disruption.
A specialised Obelix Undercutting Tool is used to shape an undercut at the base of a standard sized cored hole cut in cured concrete. The mechanical fingers wedge against the concrete when the clutch is in its engaged position, enabling the load to be distributed over a wide area of concrete.

Environmentally Sensitive Demolition
In sensitive urban environs where the concrete structure needs to be removed in such a way so as to eliminate the risk of contamination by dust, debris, chemicals, noise, or damage of sensitive environments including waterways, airways, flora and fauna, the *Obelix Lifting System allows* these jobs to be completed with a superior environmental outcome.

Sydney Opera House - NSW

SEYMOUR WHYTE

OBELIX LIFTING SYSTEMS - APPLICATIONS

Emergency Services
When large structures collapse the ability to rescue people or assets trapped beneath large concrete elements often requires highly controlled removal techniques. The *Obelix Lifting System provides the ability to cut, lift* and remove large sections of concrete that accelerates and improves recovery outcomes.

General Demolition
Obelix Lifters can also be used for the removal of large slab sections, beams, columns or precast wall panels in multi-storey buildings for offsite recycling or reuse.

Civil Demolition
Obelix Lifters used in the controlled demolition of a freeway over pass during the Pacific Highway Woolgoolga Upgrade.

Craigieburn shopping Centre - Vic

DELTA GROUP Lend Lease

Pacific Highway Upgrade - NSW

Leighton Fulton Hogan JV

OBELIX LIFTING SYSTEMS - APPLICATIONS

Portable Crash Barrier - Rehabilitation

The Project
Portable Concrete Barrier (PCB) Rehabilitation - Port of Brisbane
Client – Seymour Whyte

Project Description
The client had an inventory of portable concrete barriers that were non-compliant due to corroded and bent lifting points. Each barrier weighed 7t and was 7m in length.

Obelix equipment
6 x 10t 350mm Obelix Lifting Clutches
2 x Obelix undercutting tools

Background
The clients' inventory was unusable and non-compliant for use on Transport and Main Roads (TMR Qld) projects. Each barrier had two corroded foot anchors embedded.

New replacement barriers were quoted at $3,000 per barrier with a lead time of 13 weeks.

This provided the client with estimated saving of $450,000 on the project.

Port Brisbane -QLD

SEYMOUR WHYTE

Queensland Government

OBELIX LIFTING SYSTEMS - APPLICATIONS

Civil Engineering

The Project
The Urban Superway
(South Road Superway)
Client – John Holland/ MacMahon & Leed Engineering JV

Project Description
Construction of 2200 precast box girders, and 2300 precast parapets for an $814M elevated highway in South Australia

Obelix equipment
16 x 35t Obelix Lifting Clutches
16 x 10t Obelix Lifting Clutches
35t Obelix Void Formers
10t Obelix Void Formers
Obelix Retainers

URBAN SUPERWAY
Driving Value & Innovation