

Precast Underground Bunker & Multi-Purpose Protection Sys

CAPABILITY SHEET · BURIED PRECAST ARCH · INTEGRATED PROTECTIVE SYSTEM · ENGINEERED TO ORDER

THE ONE IDEA

PRINCIPLE	The bunker is not the concrete. It is the concrete and the soil around it. A buried arch is loaded by the earth above it and held in shape by the earth beside it.
METHOD	It is finished when the last layer of backfill is compacted, on both sides and in step - not when the last segment is lifted.

THE STRUCTURE

PRECAST ARCH	An arch turns the weight above it into compression along its curve, which concrete carries well. Segments are made in a plant, joined on site, sealed and buried.
JOINTS & WATER	Keyed, sealed joints; one continuous waterproofing layer; drains below and beside the arch; a sump with a backup pump; dehumidification for the sealed space.
BACKFILL	Placed in thin layers on both sides in step, compacted and checked layer by layer. The soil holds the arch in shape and shares the load.

THE OPENINGS & SYSTEMS

OPENINGS	Every door, air intake, exhaust, cable entry and escape hatch is a hole in the protection. Each has its own protection and its own test.
AIR	Protected intake and exhaust, filtration where the use calls for it (CBRN-grade), controlled pressure, climate control for a sealed space.
POWER & COMMS	Mains, standby and battery power; lighting and communications through sealed entries; fire safety chosen for an enclosed space; monitoring of moisture, temperature, settlement and doors.

CONFIGURATIONS

SINGLE BAY	One arch line with an entrance, an airlock and a protected room.
MULTI-BAY	Several bays joined by passages, with a plant room and a second exit.
MODULAR SYSTEM	Repeatable bays from one arch, fit-out changed for each use. One precast arch system and one fit-out specification across all three.

SCOPE & STATUS

WHO DOES WHAT	Neometrix integrates the whole system. The precast arch design and its blast validation are specialist work, brought in from specialist partners; doors and hatches come from specialist makers. No ownership of the arch design is claimed.
STANDARD	IS 4991, the Indian criteria for blast-resistant design of structures, is the public reference. The protection level is set by the customer and the design standard and is not published here.
STATUS	Neometrix engineers precast underground bunkers and multi-purpose protection systems to order, as the integrator of the whole system, with the precast arch design and its blast validation brought in from specialist partners, and no delivered precast underground bunker is claimed.

DEFENCE PROGRAMMES DESK

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Figures describe the system class Neometrix engineers to order and are not a quotation. Structure, openings, systems and build method are established against the customer's site, use and specification at design review. ISO 9001 / ISO 14001. © Neometrix Defence Limited.