

DURA-HOLD

Interlocking Retaining Wall System



ISO 9001: 2015
Approval No.
ISO 9001- 0049900



CINLE

CONCRETE PRODUCTS INDUSTRIES SDN. BHD. (216631-X)

The **Dura-Hold** retaining wall system is composed of solid, high compressive strength, wet-cast, rectangular concrete modules. The **Dura-Hold** units are characterized by a continuous, patented offset tongue and groove on the top and bottom of the block respectively. The offset tongue and groove allows the block to be automatically aligned both horizontally and vertically as it is installed to create a 1H:8V vertical batter.

As a gravity segmental retaining wall (with or without geogrid reinforcement), the **Dura-Hold** system can be constructed to a height of 30ft (9m) with addition of geogrid reinforcement. With low installation cost and maintenance - free life, **Dura-Hold** is an excellent choice for your next slope protection application.

Due to its structural stability and smooth texture, which greatly reduces water (flow) friction, **Dura-Hold** has become the ideal choice of Engineers for many water applications (lake, rivers, detention ponds & canals). The units are segmented to create a random block pattern and the normal battered effect can also be eliminated to establish a near vertical wall.

The **Dura-Hold** system can be assembled using 3 basic configurations: Single-Depth Conventional, Geogrid Reinforced SRW or Crib SRW. The **Dura-Hold** Crib SRW utilizes tieback and deadman units. This configuration increases the maximum wall height and is ideal for construction in areas with limited space constraints.



Strong, Aesthetic And Very User Friendly



Dura-Hold is a gravity segmental block retaining walls that are constructed by stacking the units. No mortar or mechanical fasteners are required. All systems use a patented shear connection that makes the units self-aligning and self-battering. This created a strong uniform interlock throughout the wall.

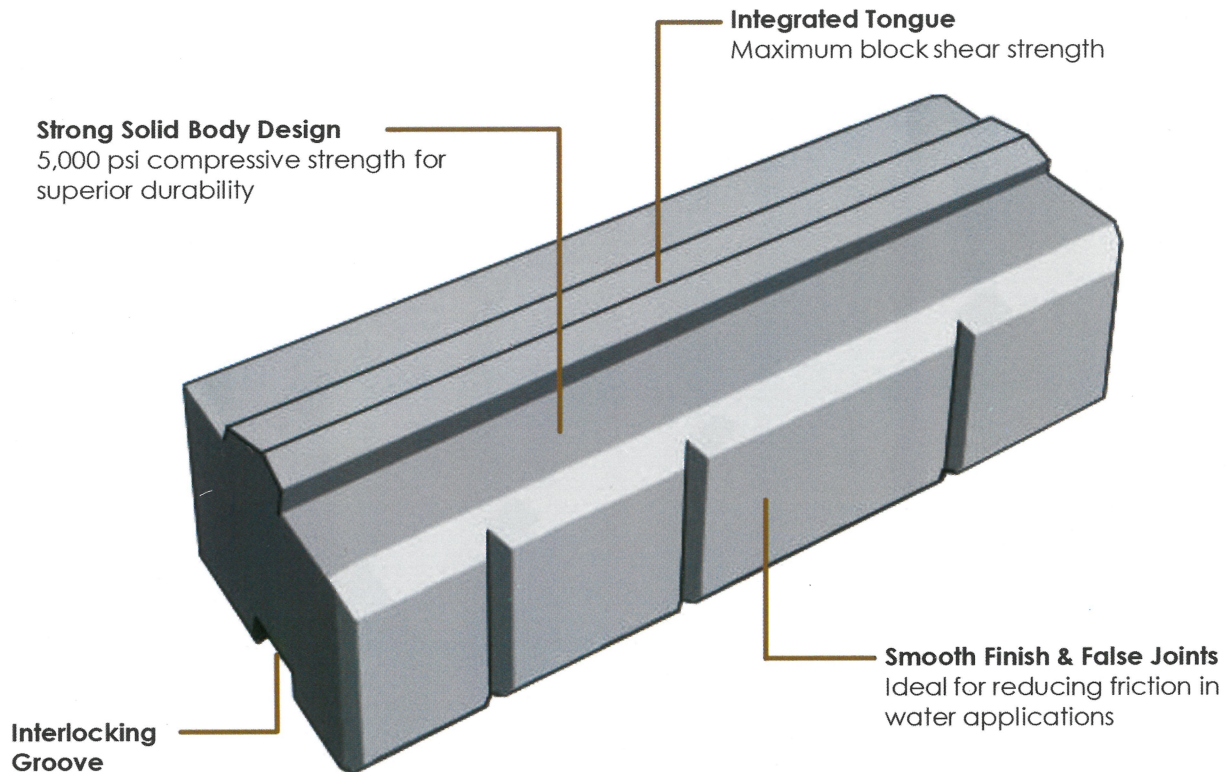
The height of walls built with **Dura-Hold** can be increased substantially when used with Geogrid Soil Reinforcement - please contact our technical support team for more details.



Block Features & Applications

Block Features

Weight from 390kg - 790kg



Dura-Hold meet the need of homeowners, designers, contractors and landscape architects by providing a wide range of features.

- ✓ Design Flexibility
- ✓ Aesthetics Appearance
- ✓ Ease of Installation
- ✓ Economics
- ✓ Durability
- ✓ Stability

Applications

Max. Height* Gravity Wall

Standard 1.8m / 6.0ft
Crib +9m / 30ft

Max. Height Geogrid Reinforced

Standard +9m / 30ft

Min. Curve Radius

Standard 82m / 269ft
Tapered 20m / 66ft

Other

Handrail & Fences

Refer pedestrain handrail detail

Stack Alignment



Vertical



Setback

*Values may vary based on site conditions



Specification & Installation

The following procedure is recommended for the construction of segmental retaining walls over 1.0m (3.0ft) in height, or as required by local building codes.

Clear Plan

- Aboveground Site Assessment : existing grades, structures, utilities, property lines, visible water features etc., established.
- Contact all utility companies to confirm location of underground utilities that may not be visible in aboveground assessment.
- Proposed site modifications defined by designer (landscape architect, engineer, architect) based on owner's requirements and site limitations. Includes proposed grades, retaining wall geometry, slopes, proposed use of land (parking areas, water detention, landscape), relocation of existing structures/ utilities, new structures / utilities, location of trees, etc.
- Project drawings generated and submitted to appropriate agencies for approval.
- Investigate local building codes and apply for all permits required.

Assessment of Subsurface Conditions

- Geotechnical Investigation conducted to evaluate subsurface conditions of site, including soil types, characteristic properties, in-situ state, groundwater conditions, overall slope stability, bearing capacity.
- Recommended design parameters, construction / excavation techniques, effects of proposed and existing structures, ground improvements, erosion protection, drainage considerations, anticipated settlement, etc., should be identified.

Site-Specific Retaining Wall Design

- Information provided in plan and geotechnical investigation provided to the wall design engineer.
- The design may be provided by a third - party engineer qualified in this field. The design must synthesize all available information and include cross - section and / or elevation - view drawings, specifications, calculations, quantities, and related construction details.

Pre-Construction Meeting

- We recommend that all involved parties (designers, owner's representative, general contractor, installer, inspecting engineer, supplier, etc.) attend a pre-construction meeting to define schedule and clearly state responsibilities.
- Parties not directly involved with the design and construction of the wall, but who may do future work

that could influence the wall (e.g. paving, installing fences) should attend the meeting to understand the limitations of the wall and address precautions.

- Experience has shown that this simple step prevents a multitude of potential problems.

Geotechnical Inspection & General Review

- Most building codes require that a qualified engineer be retained to provide geotechnical inspection and general review of the SRW construction. These two functions can be conducted by the same individual, or a General Review Engineer may rely on the inspection and test reports of a third-party geotechnical engineer.

Proper Installation

- Adherence to design, specifications, details, guides, and good construction practice is necessary.
- Water is controlled and managed before, during, and after construction.
- Conducted under the supervision of the General Review Engineer.

Final Grading

- Final grading should be conducted as soon as possible following construction to divert water away from the wall and create the optimum condition for great performance.

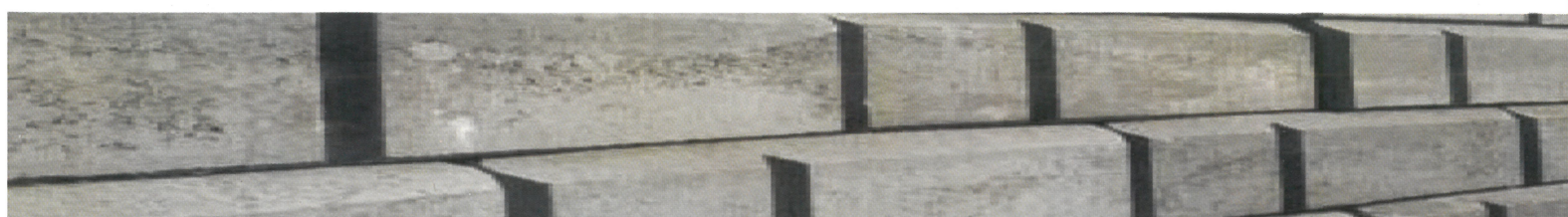
Letter of General Conformance

- General review engineer provides a letter to the owner that the wall has been constructed in general conformity with the design and specifications.

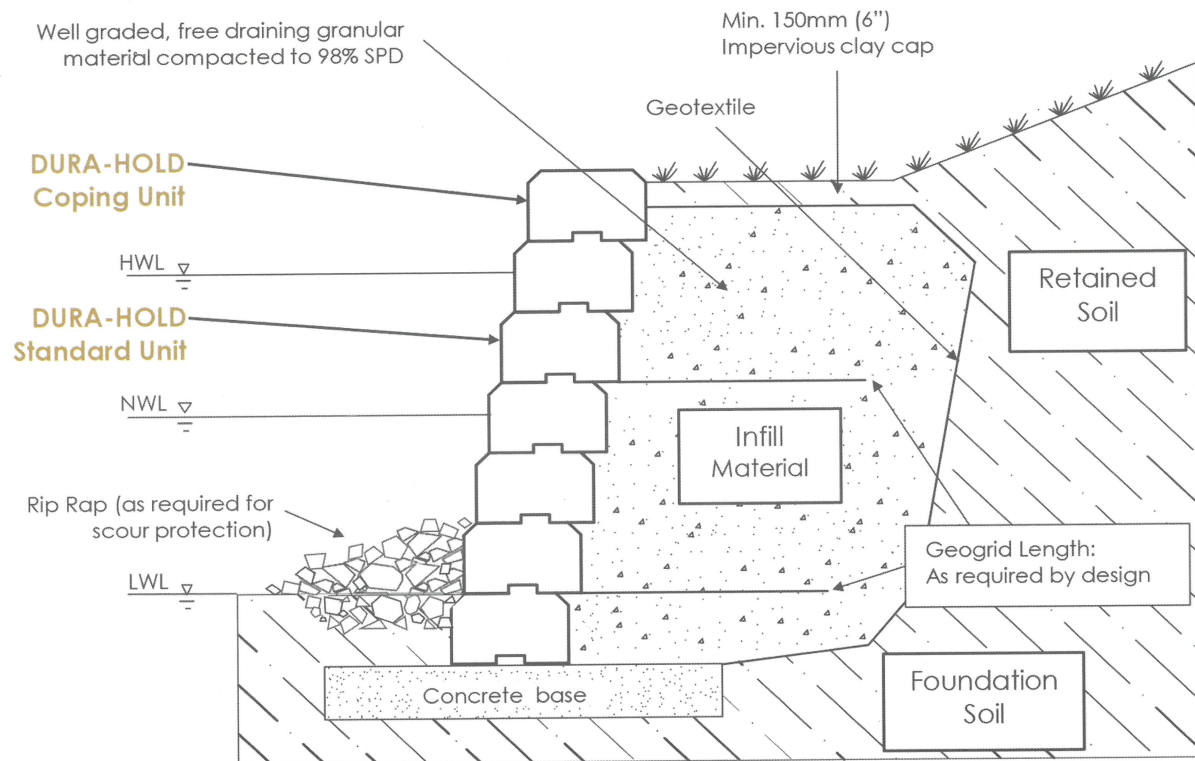
Safety Notes

- Ensure all workers are well-versed in the proper use of all equipment and vehicles.
- Prior to each use, inspect all machinery to ensure that it is in good condition.
- Do not exceed the recommended load / speed / capacity specified by the equipment manufacturer.
- Ensure that overall maintenance of all machinery is kept up.
- Follow all occupational health & safety guidelines set forth by your local government.

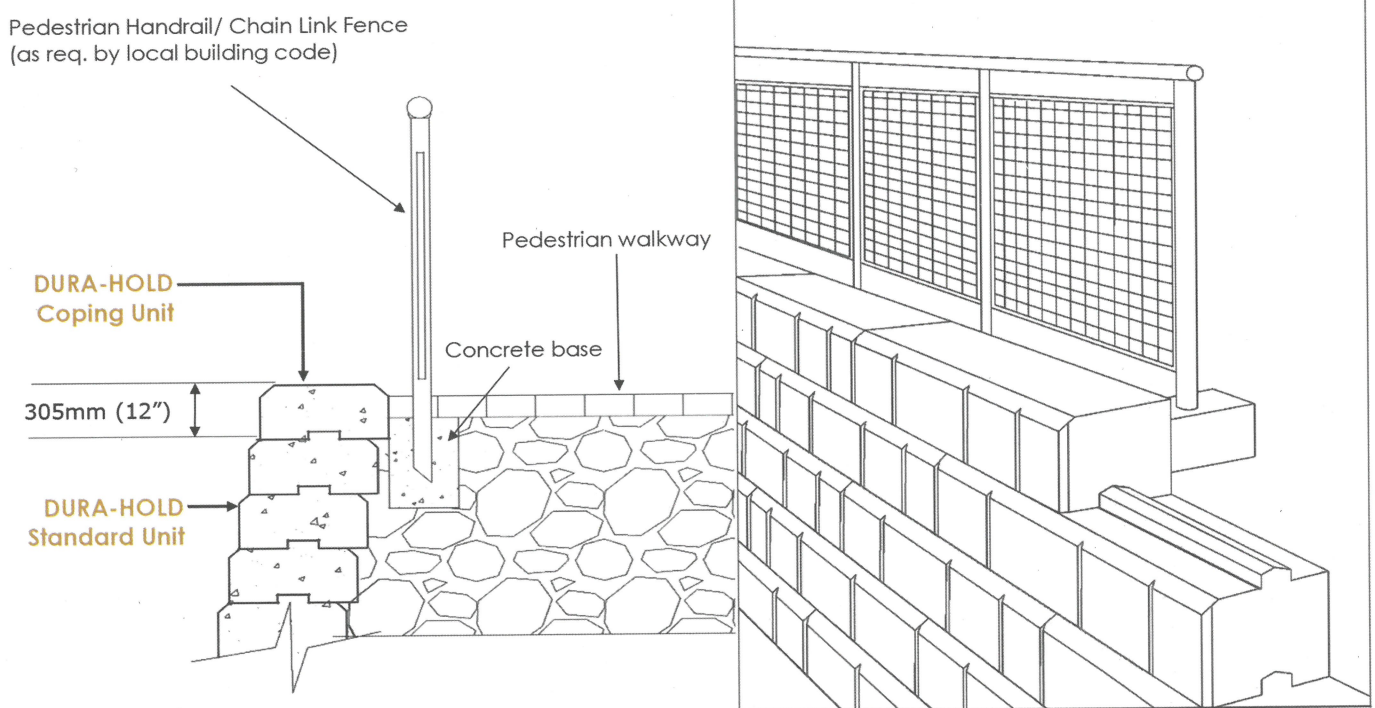
It is critical that the contractor read and understand the wall design and specification prior to undertaking the work.



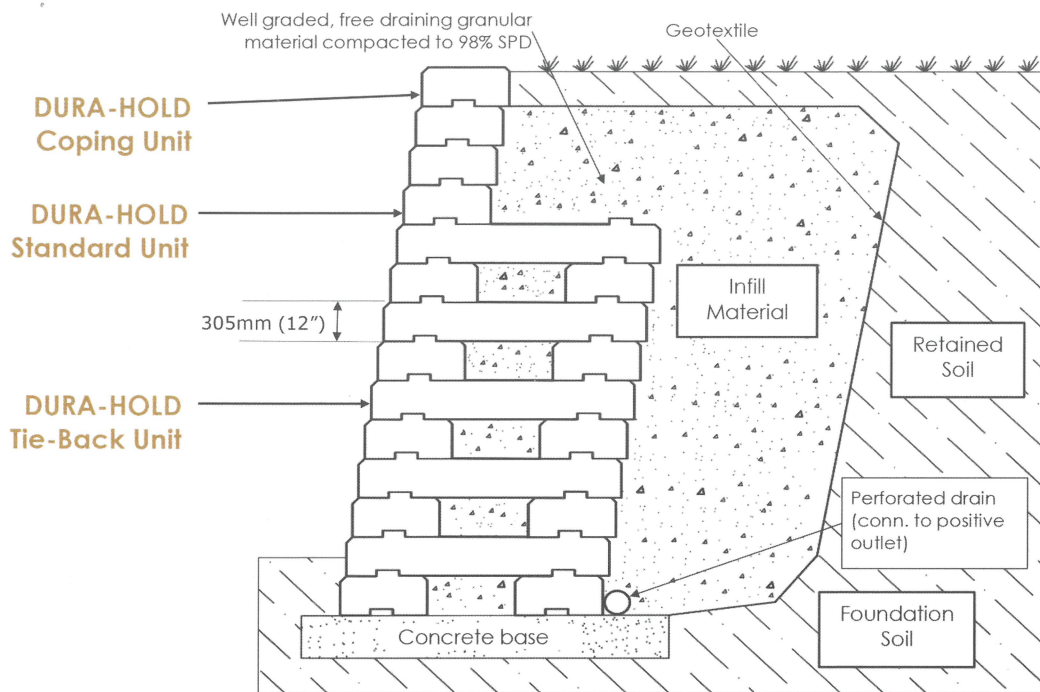
Water Application Geogrid Section



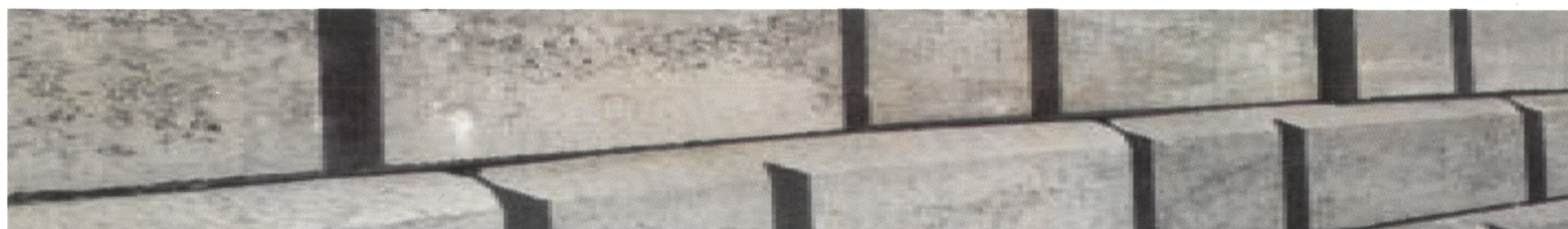
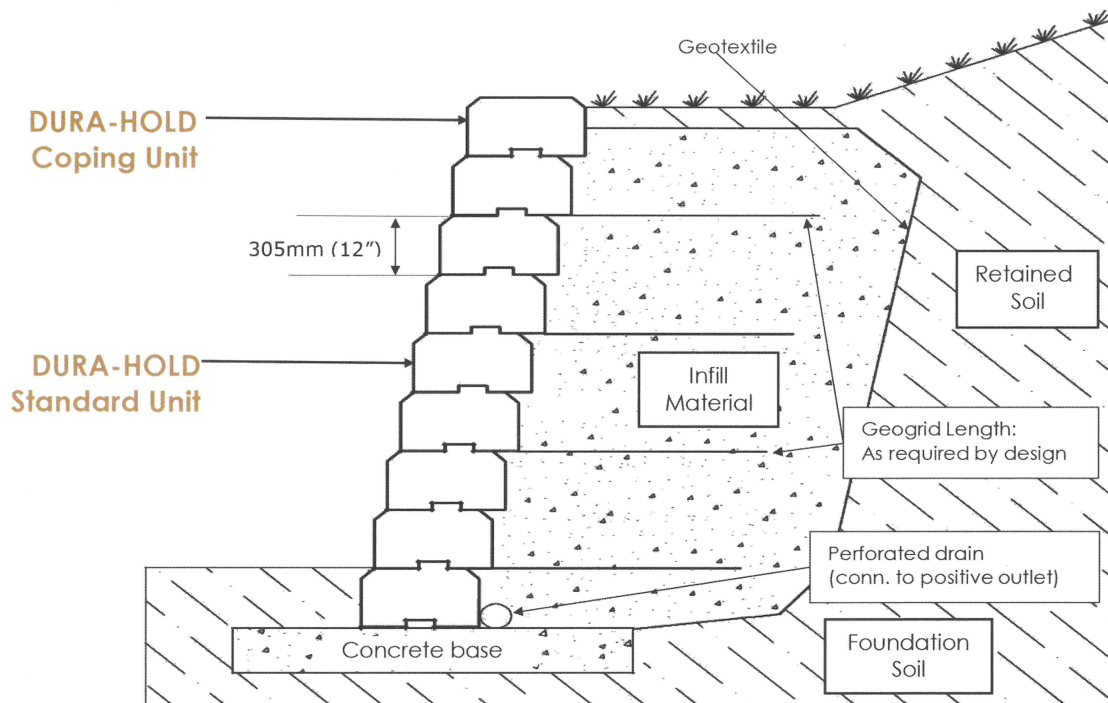
Pedestrian Handrail Detail



Retaining Wall Crib Section



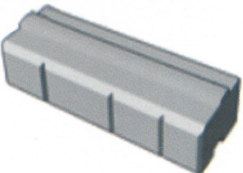
Retaining Wall Geogrid Section



Block Pattern & Unit Details

Size and Weight

The DURA-HOLD units range in weight from 390kg (860 lbs) up to 790kg (1740 lbs). A construction machine such as an excavator or backhoe are usually required for the job.

The DURA-HOLD System Units		Height	Length	Depth	Weight
	Standard	12"	72"	24"	1740 lbs
		305 mm	1830 mm	610 mm	790 kg
	Half Standard	12"	36"	24"	870 lbs
		305 mm	915 mm	610 mm	395 kg
	Coping	12"	72"	24"	1720 lbs
		305 mm	1830 mm	610 mm	780 kg
	Half Coping	12"	36"	24"	860 lbs
		305 mm	915 mm	610 mm	390 kg
	Corner	12"	60"	24"	1450 lbs
		305 mm	1525 mm	610 mm	658 kg
	Tie-Back	12"	72"	24"	1730 lbs
		305 mm	1830 mm	610 mm	785 kg
	45° Corner	12"	**	24"	**
		305 mm	**	610 mm	**

** Sizes may vary based on customers need.



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For more information on the right product for
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www.cinlegroup.com

