

Description:

Samalayuca IL(10) is a Portland Limestone Cement designed to meet ASTM C595 as IL cement with special properties such as HE (High early strength) and MS (Moderate heat of hydration). Given its composition, Samalayuca IL(10) reduces the environmental footprint of ordinary Portland cements.

Samalayuca IL(10) contains high-purity limestone and is carefully ground to perform very similarly to a type I/II cement.

Uses and applications:

Samalayuca IL(10) complies with ASTM C595 as Moderate heat of hydration cement (MS) and High early strength cement (HS), and it can be used in the construction of walls, building foundations, paving, bridges, floors, residential flatwork, soil stabilization, precast concrete products or any construction where the following properties are needed:

- General purpose concrete.
- Special applications:
 - Early strength development
 - Moderate resistance to sulfate attack on concrete.
 - Moderate heat of hydration concretes.

Physicochemical properties:

Chemical requirements	Method	Specification	Samalayuca IL(10)
Sulfate reported as SO ₃ (max %)	ASTM C595	3.0 ^A	< 4.0
Loss on ignition (max %)		10.0	< 5.0

Note A: ASTM C595: It is permissible to exceed the values in the table for SO₃ content, provided it has been demonstrated by Test Method C1038 that the cement with the increased SO₃ will not develop expansion exceeding 0.020 % at 14 days. When the manufacturer supplies cement under this provision, supporting data shall be supplied to the purchaser.

Physical requirements	Norm	Specification ASTM C595	Samalayuca IL(10)
Expansion in water (%)	ASTM C1038	--	< 0.01 --
Drying shrinkage (%)	ASTM C596	--	< 0.10 --
Sulfate expansion 6m (%)		MS ≤ 0.10	0.06 MS
Early stiffening (%)	ASTM C451	--	52 – 60 --
Heat of hydration (kcal/kg)	ASTM C1702	MH 3d < 80	< 78 MH

Note: Values have been obtained in controlled laboratory conditions and may vary according to the environmental conditions.

Recommendations for use:

To determine the dosage and optimal performance based on the type of aggregates, previous laboratory testing and dosage by weight is advised.

Advantages:

The main advantages of using Portland limestone cements to make a wide range of concrete mixtures are:

- Similar water demand to Ordinary Portland cements.
- Lower bleeding.
- Improved early mechanical properties compared to Portland cements.
- Less susceptibility to a lack of curing.

Recommendations for transport:

- Remove from platforms nails or materials that may damage the bags.
- Use belts or bands to secure the bags; if ropes are used, place protectors in the friction surfaces.
- When using a service lift observe that the blades do not harm the pallets nor the bags.
- To lift or move a bag, hold from below with both arms.
- Use big enough platforms, pallets or wheelbarrows to prevent the bags from sticking out.



Recommendations for storage:

- Cover the bags, store them in dry places and avoid long storage periods (more than 3 months.)
- Place the bags preferably on pallets or clean, flat surfaces.
- Avoid nails or broken pallets.
- Use the bags that have been in storage the longest.
- Arrange in piles, leaving 2 inches of space inbetween each pile.

Available in:

- Bulk
- Superbag

Precautions:

	ATTENTION: Causes skin irritation. May cause an allergic skin irritation or reaction. Wash with abundant water and seek medical attention.
	ATTENTION: Can be dangerous if ingested or inhaled. In case of ingestion rinse mouth and do not induce vomit.
	ATTENTION: Causes eye irritation In case of eye irritation wash with abundant water, if symptoms persist seek medical attention..



The specifications and properties of this product are not limited to the ones showed or specified on this document. If you require any special breakdown of the product's characteristics please contact GCC technical assistants to get further information.

Safety Data Sheet available at gcc.com or upon request via fax or e-mail.

Description:

Trident IL(10) is a Portland Limestone Cement designed to meet ASTM C595 IL cement and with C1157 as (HE) High early strength and (MS) Moderate heat of hydration. Given its composition, Trident IL(10) reduces the environmental footprint of ordinary Portland cements. Trident IL(10) contains high-purity limestone and is carefully ground to perform very similarly to a type I/II cement.

Uses and applications:

Trident IL(10) complies with ASTM C595 as IL cement and ASTM C1157 as Moderate heat of hydration cement (MS) and High early strength cement (HE), and it can be used in the construction of walls, building foundations, paving, bridges, floors, residential flatwork, soil stabilization, precast concrete products or any construction where the following properties are needed:

- General purpose concrete.
- Special applications:
 - Early strength development
 - Moderate heat of hydration concretes.

Physicochemical properties:

Chemical requirements	Method	Specificaion	Trident IL(10)
Sulfate reported as SO ₃ (max %)	ASTM C595	3.0 ^A	< 3.0
Loss on ignition (max %)		10.0	< 6.0

Note A: ASTM C595: It is permissible to exceed the values in the table for SO₃ content, provided it has been demonstrated by Test Method C1038 that the cement with the increased SO₃ will not develop expansion exceeding 0.020 % at 14 days. When the manufacturer supplies cement under this provision, supporting data shall be supplied to the purchaser.

Physical requirements	Norm	Specification ASTM C595 ASTM C1157	Trident IL(10)
Compressive strength 1d (psi)	ASTM C109	>1740	>1900 HE
Expansion in water (%)	ASTM C1038	< 0.02	< 0.01 --
Sulfate expansion 14d	ASTM C452	-	0.02 --
Heat of hydration (kcal/kg)	ASTM C1702	MH 3d < 80	< 80 MH

Note: Values have been obtained in controlled laboratory conditions and may vary according to the environmental conditions.

Recommendations for use:

To determine the dosage and optimal performance based on the type of aggregates, previous laboratory testing and dosage by weight is advised.

Advantages:

The main advantages of using Portland Limestone Cements to make a wide range of concrete mixtures are:

- Similar water demand to Ordinary Portland Cement.
- Lower bleeding.
- Improved early mechanical properties compared to Ordinary Portland Cement.
- Less susceptibility to a lack of curing.

Recommendations for transport:

- Remove from platforms nails or materials that may damage the bags.
- Use belts or bands to secure the bags; if ropes are used, place protectors in the friction surfaces.
- When using a service lift observe that the blades do not harm the pallets nor the bags.
- To lift or move a bag, hold from below with both arms.
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Recommendations for storage:

- Cover the bags, store them in dry places and avoid long storage periods (more than 3 months.)
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- Avoid nails or broken pallets.
- Use the bags that have been in storage the longest.
- Arrange in piles, leaving 2 inches of space inbetween each pile.

Available in:

- Bulk

Precautions:

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