




100% Made in  Taiwan



# ShifuGrout U799

Ultra High Strength Grout for Offshore Wind Turbine Foundation

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Long pot life, easy to pump, high early and final strength grout for offshore wind turbine foundations.

## DESCRIPTION

ShifuGrout U799 is an ultra-high strength grout used for offshore wind turbine concrete foundation installation, i.e. monopile, jacket and tripods.

## FIELDS OF APPLICATION

ShifuGrout U799 is especially formulated for high temperature and large scale pumping applications.

- Grouting for connections in wind turbine foundations and oil & gas installations.
- Applicable at temperature 5°C ~ 35°C.
- All void filling from 40mm to 800mm thickness.

## FEATURES AND BENEFITS

- Ultra high characteristic strength  $f_{ck}$  127Mpa
- High early and final strength
- No segregation nor bleeding
- No wash-out during under water grouting
- Pump over long distance and large heights
- Extended pot life  $\geq$  2 hours
- Excellent durability
- Excellent fatigue resistance

## CONSUMPTION

- Water demand  $8.8 \pm 0.5\%$  (20°C)
- Water demand  $10.5 \pm 0.5\%$  (35°C)
- 1000kg mortar will yield approx. 450 litres of mixed grout



## PACKAGING

- ShifuGrout U799 is packed in watertight bulk bag. Size could be customized according to demand.

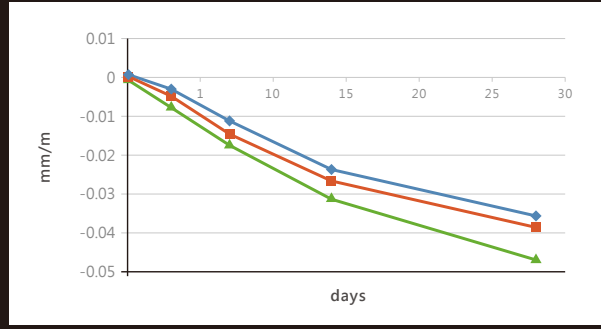
## STORAGE

- Store in cool and dry conditions.
- Shelf life under these conditions is 12 months in unopened original bulk bags.

# PERFORMANCE

Technical Data	Standard	Unit	Values (20°C)	Values (35°C)
Mixing Water Demand	-	%	8.8 ± 0.5	10.5 ± 0.5
Fresh Density	EN 1015-6	g/cm <sup>3</sup>	Approx. 2.33	Approx. 2.30
Pot Life of Mixed Material	ASTM 1437	hours	≥ 2	≥ 2
Air Content	EN 1015-7	%	≤ 3	≤ 3
SettingTime (End of Setting)	EN 196-3	hours	≤ 16	≤ 7
Compressive Strength (75mm cubes)	EN 12390-3	MPa	80	80
- after 3 days			100	100
- after 7 days			130	130
- after 28 days				
Flexural Strength (40×40×160mm)	EN 196-1	Mpa	16.6	17.9
-after 28 days				
Splitting Tensile Strength (150×300mm)	EN 12390-6	Mpa	6.9	7.8
-after 28 days				
Bleeding / Segregation	ASTM C940	-	None	None
Ring Test	ASTM C1581	mm/m	-0.041 (No crack)	-
-after 28 days				
Static Young's Modulus	ASTM C469	GPa	44.8	-
Poisson's Modulus	ASTM C469	-	0.20	-
Fatigue Factor	DNVGL-ST-C502	-	In Air C1=12.0 C5=1.0	-
			In Water C1=10.0 C5=1.0	
Characteristic Strength $f_{ck}$	Standard	Unit	Values	
Compressive Strength (75mm cubes)	EN 12390-3	MPa	127	
Application Information		Unit	Values	
Nominal Bore (NB) for Grout Hoses/Lines		in	NB ≥ 2	
Grout Annulus Thickness (t)		mm	40 ≤ t ≤ 800	
Pumping Length Through 2"NB Flexible Hose (L)		m	L ≤ 160	
Pumping Elevation Head Using 2"NB Flexible Hose (H)		m	H ≤ 20	
Application Temperature		°C	5 ~ 35	





Test results of restrained shrinkage deformation

## RING TEST

The restrained shrinkage was determined according to ASTM C1581. Fresh ShifuGrout U799 was put into the test moulds directly after mixing and the test began. The measurement was performed continuously for 28 days or until the grout ring cracked. The results are listed above. Restrained contraction is less than 41um in 28 days with no crack.

## HAZARDS IDENTIFICATION

- May cause skin irritation
- May cause allergic skin reaction
- May cause serious eye damage
- May cause respiratory irritation
- Keep out of reach of children
- Use only outdoors or in a well-ventilated area
- Wear protective gloves, protective clothing, eye protection, and face protection
- IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do.  
Continue rinsing.



## Compressive Strength Development at Different Temperature EN 12390-3:2009-07 cyl 150/300 mm

