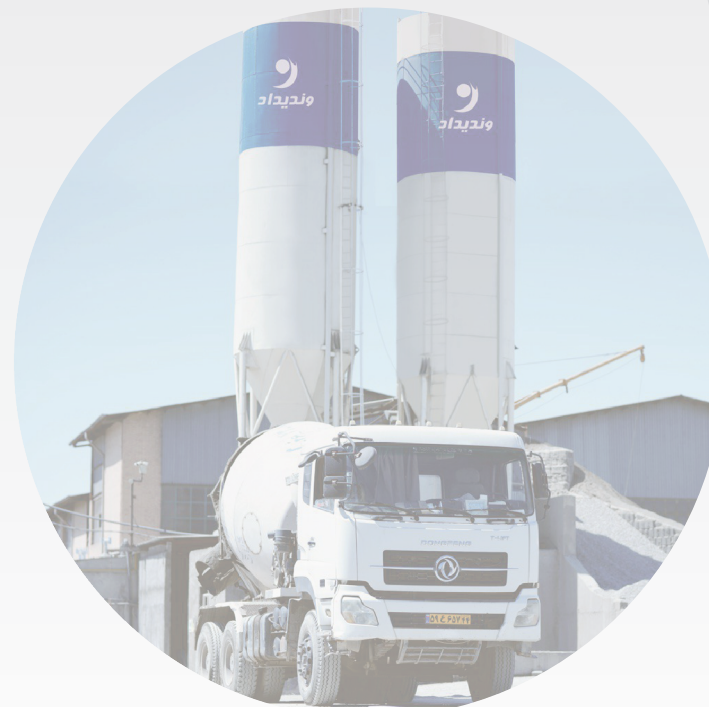




VANDIDAD ENGINEERING DESIGN

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✓ MANHOLE COVERS



Advantages:

- ✓ Resistant to weathering, corrosion, and abrasion
- ✓ Customized design (logo, organization name, and technical specifications)
- ✓ Reasonable price (compared to other types of cover)
- ✓ Suitable for various kind of manhole
- ✓ Slip-resistant
- ✓ Fire-resistant
- ✓ Theft-proof



Designed and constructed in accordance
with Iranian National Standards
14976-1 and 14976-4 Class D400

Suitable for routes of light and heavy vehicles and parking lots

Requirements	Description	AllowableQuantity	Product Value	Result
efficiency	Cover load-bearing capacity D400	400 KN	410 KN	✓
Designing	Area for a Cover The Minimum Ventilation of 600 mm Diameter or Less	5% of the circular area with a diameter of the opening	13%	✓
	Length of Vent Areas of the Cover C250, D400	Smaller than or equal to 170 mm	100 mm	✓
	Diameter of Vent Areas of the Cover C250, D400	38 mm	40 mm	✓
	Minimum Depth of Insertion	50 mm	50 mm	✓
	Maximum Total Clearance	9 mm	6 mm	✓
supplementary	Concrete Quality	Dense and Homogeneous	Dense and Homogeneous	✓
	Minimum Compressive Strength of Concrete	45 Mpa	+120 Mpa	✓
	Maximum Water -to-Cementitious Materials Ratio	0.45	-0.22	✓
	Water Absorption	Maximum 6 percent of mass	-0.02%	✓
	Maximum Chloride Ion Content in Concrete (Relative to Cement Mass)	0.20%	0.001%	✓
	Maximum Weight Loss in Freeze-Thaw Cycle	2 kg/m ²	0	✓

✓ PREFABRICATED COMPONENTS

Prefabricated Exposed Panels

Modular components for the floor and body have been introduced as a modern, economical, and aesthetically pleasing choice in the interior design and facades.

Dimensions cm	Thickness cm	Weight of each piece (Normal Concrete) Kg	Weight of each piece (Light-weight Concrete) Kg	Resistance Kg/cm ²
60*120	2-3	35-52	20-35	300-600
50*100	2-3	24-36	15-23	300-600
50*50	2-3	12-18	7-12	300-600
100*100	2-3	45-75	30-45	300-600
120*240	5	135-210	85-130	300-600



Custom Prefabricated Components

According to the client's request the engineering department evaluates the design specifications of each project and estimates the required number of components, molding, installation conditions, etc.

Vandidad Company has the capability to produce various parts with different textures and shapes using concrete with customized characteristics.

✓ SPECIAL CONCRETES

Various types of concrete, tailored to the client's needs, are produced and delivered to the customer with the best quality, using special additives and appropriate mixing designs.

(Some types of these concretes can be provided dry packed.)

Product	Application	Density Ton/m ³	Characteristic Strength Kg/cm ²
High Strength Concrete (HSC)	• High-rise buildings • Special concrete structures: such as bridges with large spans	2.3 - 2.4	800 - 1300
High Performance Concrete (HPC)	• Special projects requiring customized characteristics: such as tunnels, wharfs, towers, etc. • Lightweight prefabricated parts	2.3 - 2.4	600 - 1000
Self-Compacting Concrete (SCC)	• All types of in situ and prefabricated concrete sections with high reinforcement density • Bridge decks, urban and underwater tunnels	2.3 - 2.4	400 - 800
Exposed Concrete (Exposed)	• Prefabricated exposed components • building facades	2.3 - 2.4	350 - 600
Roller Compacted Concrete (RCC)	• Road pavements • concrete dams	2.3 - 2.5	300 - 450



✓ STRUCTURAL ULTRA-LIGHTWEIGHT NANO CONCRETE

The formulation of Structural Ultra-lightweight Nano Concrete, achieved through the utilization of nanotechnology and nanomaterials, along with lightweight aggregates possessing exceptionally high strength-to-weight ratios, stands as the result of the dedicated efforts of the founders and researchers at the Research and Development unit of Vandidad Company.

In addition to reducing density and enhancing compressive strength, this concrete boasts unique mechanical properties, including improved durability, resistance to creep, reduced permeability, and more.

Some advantages of using this concrete:

- ✓ Increase structural strength against earthquakes.
- ✓ Increase useful space by reducing the size of the structural sections.
- ✓ Reduce rebar, iron and concrete used in structure.
- ✓ Reduction in the structure cost.
- ✓ Enhanced structural resistance to environmental factors, permeability, and more.

Density: 1.2 – 1.8 Ton/m³
Characteristic Strength: 20-45 Mpa



✓ DRY PACKED CONCRETE PRODUCTS

Considering the specific mix design of the concrete produced by Vandidad Company and the necessity for precise controls in material selection, weighing, and mixing, Sepehr Beton, a Vandidad subsidiary, provides special dry-packed concretes in accordance with ASTM C387 standards. These concretes are packed in waterproof bags of 25, 50, and 1000 kilograms.

Available Types of Dry Packed Products

Product	Application	Density Ton/m	Characteristic Strength Kg/cm
Structural Ultra-lightweight Nano Concrete	• All types of roofs in steel and concrete structure (Concrete Slab, One Way Ribbed Slab, Metal Deck, Composite, etc.) • Pre-stressed and post-tensioned prefabricated or in-situ segments	1.20 - 1.80	200 - 400
Self-Leveling Mortar	• Leveling existing ceramic or cement tiles and wood floors to provide a smooth, even surface • Exposed prefabricated components • Leveling the floors with load and thickness restrictions	1.80 - 2.60	200 - 600
Self-Compacting Concrete (SCC)	• All types of in-situ and prefabricated concrete sections with high reinforcement density • Bridge decks, urban and underwater tunnels • Concrete structures with special architectural design	2.25 - 2.35	350 - 500
Repair Mortar	• Repair of porous concrete • Filling concrete grooves and cracks.	2.00 - 2.10	400 - 600
Normal Concrete	• All types of structural components of a concrete projects	2.25 - 2.35	250 - 400

✓ Assured Quality

✓ Transportable to All Parts of the Country

