



NGHSCO

Building
a Strong Future

Back to
the **Roots,**



NEYRIZ GHADIR STEEL COMPLEX



NEYRIZ

more than
3000 Years History

In ancient times, Neyriz was home to the armory of the Achaemenid Empire. Back then, the swords, spears and helmets worn by valiants in the army of the largest empire of the time were crafted by the artisans of Neyriz, 300 kilometers away from the Achaemenid capital.

Back to the Roots,

The collapse of the Achaemenid Empire and the change in the capital convinced the craftsmen of Neyriz to abandon working with iron and fire and turn to farming and animal husbandry. Generation after generation, they managed to create some of the largest pomegranate and fig orchards around, the former's crown and the latter's pulp bringing to mind the fire they once used to work with.

Now, once again, steelmaking is back to its ancient birthplace, and the people of Neyriz are preparing to relive memories that go back thousands of years. In the southern parts of the city, there lies a mountain, which locals always thought of as a slumbering dragon. They now believe that the dragon is awakening, though contrary to the myth, to bring warmth and prosperity to their lives with its benevolence.

Neyriz, Hotbed of Opportunities

Neyriz is a small city, with a population of around 80,000 people. It is located in the southernmost part of Fars Province and lies in the vicinity of the three provinces of Kerman, Hormozgan and Yazd. There is ample evidence that recounts thousands of years of human history in a city with residents who were accomplished blacksmiths for centuries.

Neyriz is an agricultural-industrial county; on the one hand, it boasts some of the world's largest fig orchards in its vicinity, and on the other, it hosts the second largest industrial estate in the Fars Province. Neyriz Ghadir Steel Complex (NGHSCO) is the largest industrial plant in the region and one of the largest industries of Fars Province and lies 50 kilometers off the Neyriz-Sirjan road.

Iran's largest iron ore mines are located in Kerman Province and near this city. Many other mining zones are also located in its surroundings.

Neyriz is a hotbed of opportunities from different perspectives:

- Access to major iron ore mines of Iran lying next to some of the largest mining areas in the country.
- Access to four vast provinces, each with high potential in terms population and being industrialized.
- Young and well-educated workforce

And the last but not the least,

- A history of steelmaking and historical affiliation with the industry.

Against that backdrop, the main reason for the establishment of Neyriz Ghadir Steel Complex was sustainable development for a small city that looks into a future of industrialization.

About Us

Ghadir Neyriz Steel Complex is one of the eight steel projects, approved by the government in the early 2000's, to decentralize the production of the key product in Iran, and to promote a balanced development in the central areas of the country, and was the first project where a direct reduction plant became operational.

The steel plant at Ghadir Neyriz Complex is also one of the first steel projects within the group that will see its products enter the market in the near future.

The first unit established in the complex was the direct reduction plant, which was constructed in 2017. Access to the plant's feedstock, that is iron ore pellets, was readily possible thanks to the proximity to Golgohar Company; and the launch of the direct reduction plant both created the infrastructure for the steel plant and, in the process, through the funds coming from the sales of sponge iron, helped the progress of the steelmaking project.

This plant was launched in 2017 with an annual nominal capacity of 800,000 tons. A relatively long period was lost due to sanctions, before, in early 2024, the steelmaking plant could also be commissioned. That plant has a production output of one million tons a year. And an iron ore pellet plant – which is under construction – will also become operational in 2026.

The NGHSCO intends to develop a full value chain, all the way through mining to production of steel billets, in the upstream steel industries, by investing in the exploration operations in four distinct mining zones (for exploration of limestone and iron ore), and purchasing a mine with an estimated capacity of around 20 million tons of iron ore.





Direct Reduction Plant

The Direct Reduction Plant of

Ghadir Neyriz Steel Company (NGHSCO Reduction Plant) produces some of the highest-quality sponge iron in Iran with a Metallization Degree (MD) of 92.2%, which has made it one of the best-received, best-known and best-selling products on Iran Mercantile Exchange. The product is being sold consistently at a higher-than-average price on the market.

Product Specifications:

MD 93.2% | C 1.95 | Fe Total 88% | Fe Metall 82%

Feedstock: Iron ore pellets and natural gas constitute the feedstock and input of the direct reduction plant. Almost 80% of the iron ore pellets consumed in the direct reduction plant is supplied by Golgozar Company (Gohar Zamin in southern Kerman Province), which is located in the vicinity of some of largest iron ore mines of Iran. Therefore, currently, Ghadir Neyriz Steel Complex has access to resources needed for sustainable supply of iron ore pellets, located less than 80 kilometers away. Nevertheless, the construction of the iron ore pellet plant of the complex is being rapidly completed.

Technology: The direct reduction plant uses the PERED (Persian Reduction) technology for its operation. PERED is an Iranian technology, now employed in several steel complexes, that has brought in favorable results. In the PERED method, the direct reduction process uses centrifugal compressors to provide the required inlet gas pressure for furnaces. Such compressors are more powerful than Lube Compressors (used in such older technologies as MIDREX). Alongside the change in the direct reduction processes, some of the other distinctive advantages of the PERED production method, compared to the earlier technologies, are reduced height of the furnace and expanded reduction zone as well as modification and improvement of heat exchanger structures in the furnace exhaust system.

Lower energy consumption and increased quality of the products are the two key benefits of employing this technology in the NGHSCO. The PERED method also uses less water and has less damaging environmental footprint.



800,000 Tons/Year



فصل دوم از کتابخانه ایمنی

نه چشمها
و دستها

برای ایمنی

30



Capacity: The nominal capacity of the direct reduction plant is 800,000 tons a year and its production is close to the mentioned capacity for most of the operating period. The plant produced 727,000 and 730,000 tons of reduced iron in 2020 and 2010, respectively.



Licensor: The MME (Mines and Metals Engineering) Company licenses sponge iron production lines in Iran.



Market: Currently, the NGHSCO offers 100% of its produced sponge iron on the mercantile market. The quality of the products and their steady supply has made Ghadir Neyriz Steel Complex one of the most reputable suppliers of the product on the stock market and won the company several awards. This has led to the company seeing a strong demand for its sponge iron product. That is why the company is seeking as a mid-term target the completion of a project that raises its sponge iron production capacity to 1,200,000 tons.



Steelmaking Plant

The Steelmaking Plant at Ghadir Neyriz Steel Complex produces 1 million tons of different types of steel billets in different dimensions and various quality grades.

Product Types: Steel billets with cross sections of: 130x130 mm 150x150 mm 200x200 mm

Grades: Low Carbon, Medium, Carbon, HSLA.

Feedstock: Steelmaking plants use sponge iron as feedstock and this is now supplied by the direct reduction plant at Ghadir Neyriz Steel Complex. The NGHSCO steelmaking plant needs 1.1 million tons of sponge iron and 100,000 tons of scrap iron to produce 1 million tons of steel a year. Therefore, the plant has to provide for its feedstock using external supplies, alongside its internal production. Also, the plant faces no challenge in terms of supplying its feedstock due to the proximity of this complex to mines located in southern Kerman Province. With the development of the subsequent phases of the direct reduction plant, the entire sponge iron required for the steelmaking plant will be supplied from within the complex.

Utilities: Although, Ghadir Neyriz Steel Complex purchased the right to use 6 million cubic meters of water from Cheshmeh Ashegh Hydroelectric Dam (located 30 km away from the plant) years ago, due to the worsening water crisis in Iran, and with the approval of shareholders and a financing of around 20 million dollars, a water transfer line extending from the Persian Gulf to Neyriz, has been constructed for the plant. This transfer line was completed in early 2024 in time with the commission of the steelmaking plant and is providing the required water for the facility. The required natural gas and electricity for the company is supplied by the national natural gas and electricity grids of Iran. A contract has already been signed for the construction of a solar power plant near the complex to provide it with 10 megawatts of solar power. Another contract for the construction of a combined-cycle power plant with a capacity of 150 megawatts has also been signed and the facility will become operational in less than two years.

Technology: The technology used in the steelmaking plant comprises of an electric arc furnace (EAF) in the steel-melting section, as well as a continuous casting machines (CCM) in the billet production section. Due to the challenge posed by the shortage of water in Iran, the plant, rather than a cooling tower, has been equipped with an air cooler, which has cost significantly higher, but has reduced water consumption by up to 50%.

Modern technologies have also been used in the construction of the electric arc furnace including:

Q Smart Tech | Q Reg | Q Panel





1,000,000 Tons/Year

Various Steel Billets in different dimensions and quality grades

**Capacity:**

The nominal capacity of the steelmaking plant is 1,000,000 tons a year.

**Licensor:**

Italy's Danieli Company is the licensor of the steelmaking plant at Neyriz Steel Complex, and the Italian entity oversaw the work of the Iranian experts up until the commission stage and the entire set of production processes were planned and executed under the supervision of the Italian company and in compliance with its standards.

**Market:**

Neyriz Steel Complex Plant is looking to export markets, alongside the domestic market, for its products. Some of the markets earmarked by the plant to sell its steel billets are those in the neighboring countries, China, Central Asia, etc.

Iron Ore Pellet Plant

The construction work of this plant, with a financing of 81.3 million dollars under an EPC (Energy Performance Contracting) arrangement, has been handed to Iranian engineers. However, the needed equipment will be supplied using the potential of such European and Chinese manufacturers as Koppern, Zettle, Comtech, Cemtech, Sunrise, Civic, Hunam, Weihua.

Feedstock: The pellet plant uses iron ore concentrate as feedstock. Some 2750 million tons of concentrate is needed every year for production of 2.5 million tons of iron ore pellets.

Technology: The NGHSCO iron ore pellet plant uses the "Travelling Gate" technology, the main elements of which are the following: HPGR, Mixer, Pallet Car, Indurating Machine, Burner, Stacker & Reclaimer, Gas pressure reduction station, NaOH System, Pelletizing Discs, Air Fans, Sampler, Conveyor, Vibrating Feeders, Screens, Heat Exchangers,

Commissioning: Autumn 2026

Product Specifications:

Diameter:

9 to 16
millimeters

Grades:

68%





2,500,000 Tons
a Year



Capacity: The nominal capacity of the iron ore pellet plant is 2.5 million tons a year.



Licensor: Germany's NewFer Company has completed the basic engineering design of the plant while the detailed engineering design has been carried out by an Iranian engineering company.



Market: Around 45% of the production capacity of this plant is consumed as feedstock within the complex, by the direct reduction plant. But, as the plant reaches its nominal capacity, the surplus production will be sold to other steel companies.

Mines Iron Ore and Limestone

The NGHSCO's location is exceptional in geographical terms and features different mining zones in its vicinity. Ghadir Neyriz Steel Complex has already begun exploration in four different mining zones to access its iron ore and limestone requirements.

The mineral areas include:

- Ghias iron ore zones, which span an area of 200 hectares, for the exploration of a low-grade magnetite mine.
- Gowde Ghouli iron ore zone spanning an area of 471 hectares.
- Ghadir Mountain iron ore zone spanning an area of 330 hectares.
- Gowde Ghouli limestone zone spanning an area of 30 hectares.

In addition to what went above, NGHSCO purchased an iron ore mine in Khoshoumi area in Yazd Province, which is estimated to contain 20 million tons of iron ore reserves. Operations in the mine are planned to begin soon.





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