

*MACHINERY*

*ENGINEERING*

*ECO-LOGISTICS*



## *DIRECT RESTORATION OF METALS FROM ORES*

*Adgex Metals erases distinction in fraction scale of iron ore!*

*Iron's Fraction Size has no Influence any more!*



# FEASIBILITY STUDY

Adgex Ltd offers feasibility study of progressive, cost-effective technology on direct restoration of metals from ores.

Based on feasibility study, our technology will be in a position to obtain the following metals on the spot of ore deposit:

- **GREY PIG-IRON**
- **LOW-CARBON STEEL**
- **ARMCO IRON**
- **FERRO ALUMINUM**

Once analysis of chemical structure of iron ore and raw material of customer is conducted, the following can be supplementary produced and obtained from technogenic restoration waste:

- **BASALT PLATES**
- **SILICA CALCIUM** (if ore contains calcium oxides)



## ADVANTAGES OF ADGEX'S OFFER:

- ♦ Obtaining finished metal at 100% processing of raw material directly on the spot of ore extraction
- ♦ Well-priced technology (cost-effective expenses per ton of metal)
- ♦ Mini-metallurgy (various capacity scale, depending on needs and interests of a project)

Adgex's technologies enable to obtain trade ingots in the form of pig-iron or steel blanks from the structural grade to ARMCO iron in industrial-scale volumes. At that, restoration level from oxides equals to 70-90%, and amount of generated slag – 12-29% of loaded for restoration waste at energy consumption ~680 kW/ton of restored iron.

The technology, presented by Adgex, implicates versatility of application for new generation of furnaces and usage of bulk and solid material, replete with non-metal matters up to 60% (gangue).



## BENEFIT FOR THE CUSTOMERS:

- ♦ Usage of iron ore fines (independence of fractional structure of iron ore)
- ♦ Moisture level of raw material can reach up to 20%, that permits collection of iron ore fines

## REQUIRED PARAMETERS:

- ♦ Total Ferrum in ore must be not less than 40%

And also Adgex Metals offers to supply equipment for furnace with capacity from Min 250kg and up to Max. 10 tons. With max (10-tons) capacity, the furnace output capacity of 30 000 tons per annum. By using one or several furnaces, we can form mobile and portable mini-metallurgical workshop with capacity up to 50 000 tons of finished product a year. Each of these mini-metallurgical workshops has a great progressive potential with high profitability, including usage of iron ore fines as a raw material directly on the spot of mining.

Adgex also provide captive fuel power station required energy capacity at field with minimal OPEX & CAPEX and other required infrastructure.





*In virtue of developed technology of direct restoration of metals from ores,  
Adgex drastically changes attitude of particle sizes of iron ore.*

*We erase difference between usage  
of iron ore Lumps and Fines.*

*Iron's Fraction Size has no influence on the result any more.*



**ADGEX**   
Advanced Geoscience Solutions

[www.adgex.com](http://www.adgex.com)