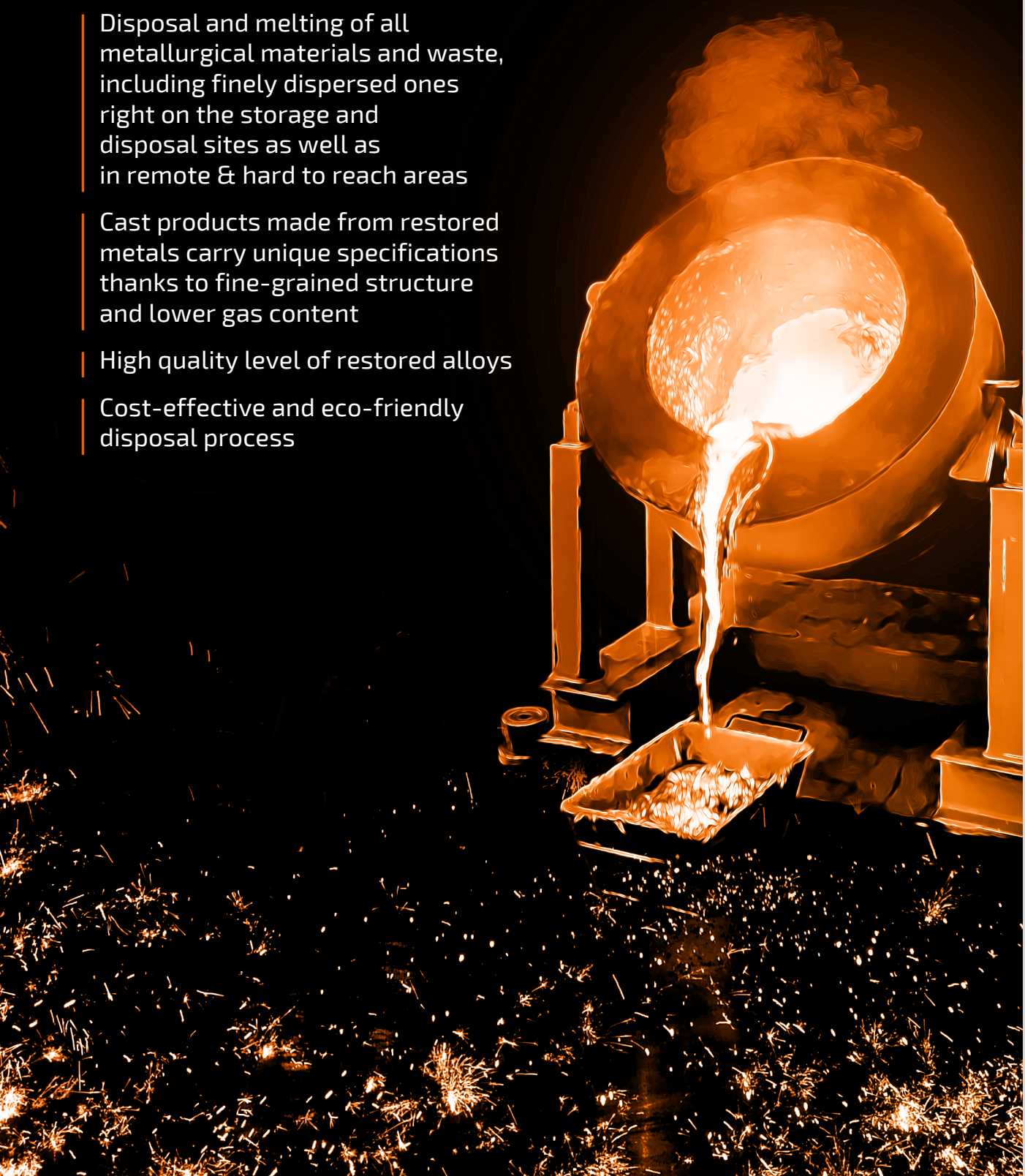
MOBILE METALLURGY

Direct restoration of metals & disposal of all metal-containing, steel manufacturing and metallurgical waste

- Disposal and melting of all metallurgical materials and waste, including finely dispersed ones right on the storage and disposal sites as well as in remote & hard to reach areas
- Cast products made from restored metals carry unique specifications thanks to fine-grained structure and lower gas content
- High quality level of restored alloys
- Cost-effective and eco-friendly disposal process



Metallurgy
Disposal of metallurgical waste

Hi-TECH METALLURGY

adgex.com/mobile_metalurgy
metal@adgex.com

ADGEX
Advanced Green Expertise

MOBILE METALLURGY

Universal, high-tech and eco-friendly solution for disposal of metallurgical technogenic waste right on the storage and disposal sites via the mobileARC furnaces and the technology of direct restoration of metals.

TYPES OF WASTE UTILIZED

Red muds, burnt pyrites, nickel-containing slags, copper-containing sludges, iron scales, chromite sand waste, dust and gas removal waste from steel-casting and metallurgical furnaces, e-waste.

CREATION OF END MARKET PRODUCT

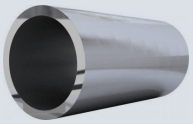
It is feasible to produce in the field *right on the waste's disposal sites different types of end market products* such as steel or iron ingots, slabs, copper billets, ferroaluminium, ferronickel, alloy steel, cast iron of various types.

Supercast iron

Cast iron in ingots is *finely-grained with tensile strength of up to 600 MPa and hardness of up to 230 HB.* The parts made from this cast-iron could be hardened selectively or entirely in thermal furnaces with high-frequency current (HFC-hardening) of *up to 55 HRC and strength of up to 1500MPa with 100% reconstruction of pearlite microstructure into martensite.*

Low-carbon and high-alloyed steels

To lower carbon content when casting low-carbon, structural, alloy, tool, and high-speed steels *no gas purging is required.* Carbon content when melting *reaches 0.001%* at the lowest values of gas content.



Solid-cast ferroaluminum for steel deoxidation

Currently aluminum AV-86 is widely used for steel deoxidation. Its replacement with aluminum FA10 in the ratio of 1:1 *results in 20% reduction of steel castings defects* due to effective thermophysical and physicochemical phenomena when steel of solid-cast ferroaluminum is melted. *Economic benefit of such replacement may reach 30%.*

MobileARC FURNACES

Signature multifunctional short-arc furnaces of direct current are specially designed for the model of Mobile Metallurgy.

Key Highlights

1. Complete self-sufficiency and energy independence
2. Treatment and melting of all metallurgical waste, including finely-dispersed ones
3. Min loss of melted materials in furnaces
4. Non-metal impurities content may reach 70% of initial feedstock
5. All types of waste require no special technological preparation for melting
6. Feedstock humidity may reach 20%
7. If sludges contain bound moisture, feedstock humidity may reach 50%

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