

# Process and Layout Study

## Competence in Recycling & E-waste Processing



After the process & layout study, you will have a **tailor-made recycling concept** for your requirements – based on the raw material and the designated product portfolio.

- ✓ Manufacturer independent specifications
- ✓ Objective technology evaluation
- ✓ Both, turnkey project and self-organised realisation are possible
- ✓ Stepwise project realisation with implementation of go/no-go decisions
- ✓ Prevention of surprises and increased cost reliability
- ✓ Increased cost effectiveness and overall financial benefit

**BENEFIT**

We provide an independent engineering package as a basis for equipment tendering procedure. This reduces dependency on single suppliers, strengthens negotiation position and finally increases cost effectiveness.

Our scope of services within a Process and Layout Study is related to the following topics:

- ✓ **Financial plan & business case:** Raw material and product qualities; estimation of required manpower, as well as energy, media, and utilities consumption; evaluation of equipment costs
- ✓ **Site selection & infrastructure planning:** General plant layout; cross sections and outer dimensions, media & utilities requirements and main electrical load; consideration of auxiliary & environmental equipment, cranes & hoists (...)
- ✓ **Tendering and equipment selection:** Main technical data of key, auxiliary, and environmental equipment; manufacturer independent data to allow wide tendering procedure
- ✓ **Coordination with permitting authorities:** Plant layout and cross sections; process flow diagrams; products, by-products, and waste streams; off-gas and gas treatment options
- ✓ **Further engineering & project realisation:** Well-founded basis for basic, civil, and detail engineering; manufacturer independent, but upgradable in relation to the finally selected equipment

**SERVICES**

Process flow diagrams

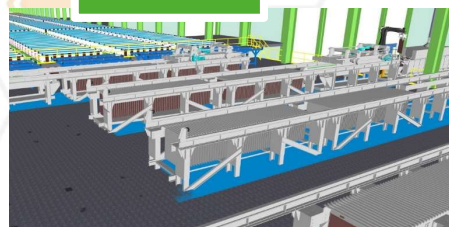
Sankey diagrams

Process design

PROCESS PARAMETERS

Step No.	1	2	3
Step Name	Smelting	Refining 1	Refining 2
Continuance of metal phase	remains	remains	HF
Continuance of slag phase	remains	removed	removed
Process time [h]	1,79	0,37	1,04
Burner lambda [-]	1,05	1,20	1,20
Bath Temperature [°C]	1.200	1.205	1.195
Fe/SiO2 ratio [-]	1,40	1,40	1,40
Oxygen in Metal [ppm]	1.500	5.000	8.000

3D model



*"... our process & layout study is a huge step to your tailor-made recycling facility ..."*

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