



Steel & Profile Cutting Optimization API

Cutting steel or aluminium profile, bar, angle or section to length is a 1D cutting-stock problem — and the same engine that powers the CutOptim app is callable over HTTP. Your ERP, estimating or production software sends the cut list and the stock lengths as JSON and gets back the optimized cut plan, the bar count and the yield.

15–30%

STOCK WASTED, IN-ORDER CUTTING

1D

POST /v1/OPTIMIZE/1D

REST

JSON · OPENAPI 3.1

Cost

MINIMIZECOST RANKS BY PRICE

Live today. The same solver over HTTP, so a steel detailing or ERP tool can price and plan a job without a browser.

Why steel fabricators need it

Structural steel and aluminium profile is bought in long bars and cut to many lengths. Cutting in list order wastes a published **15–30% of the stock**; a 1D optimizer rearranges the cuts across bars to cut that sharply.

Inside an estimating or ERP workflow, the API does it on **every job automatically** instead of by hand — and it can rank plans by **total material cost**, not just bar count.

MANUAL



15–30% waste

OPTIMIZED



well below

What you send, what comes back

Send the part lengths and quantities and the available stock bar lengths and prices as JSON. The response returns the cut plan bar by bar, the bar count, the yield, the total length sawn, and the usable off-cut on each bar.

Set `minimizeCost` and the engine ranks by the lowest total stock price rather than the fewest bars, returning `totalPrice` — the property that matters when longer bars carry a disproportionate price.

POST /v1/optimize/1d

```
{
  "parts": [
    { "length": 1450, "qty": 12,
      "meta": { "profile": "IPE-140" } },
    { "length": 3100, "qty": 6 }
  ],
  "stock": [
    { "length": 12000, "qty": 40, "price": 58.0 }
  ],
  "options": { "kerf": 3, "minimizeCost": true }
}
```

200 OK

```
{
  "engineVersion": "1.0.0+8682",
  "summary": {
    "barsUsed": 4, "yieldPct": 90.1,
    "totalPrice": 232.0
  },
  "bars": [ /* cut plan per bar */ ]
}
```

Free: `POST /v1/validate/1d` checks a request with no key and no quota, so your team can confirm a payload before holding a key.

Why build on this engine

Deterministic — reproducible for quotes and audits. The same request always returns the same cut plan. A quote built from an API call is reproducible for an audit or a repeat order, and results can be cached and diffed in tests — the property a quoting workflow needs.

LIVE TODAY

The same engine as the app, on POST /v1/optimize/1d.

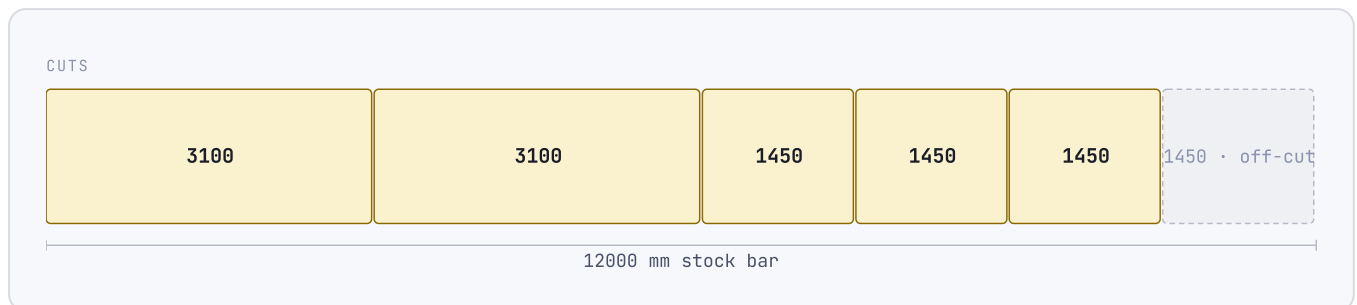
COST OR WASTE

minimizeCost ranks plans by total stock price, not just bar count, and returns totalPrice.

META PASSTHROUGH

A profile designation or order line comes back on every placed cut, so the plan reconciles.

What the plan looks like



One 12 m bar — five cuts and a reusable 1450 mm off-cut. `minimizeCost` chooses which bars to open; the API returns the plan bar by bar.

Integrate in three steps

- 1 **Validate for free** — `POST /v1/validate/1d` confirms your payload with no key and no quota.
- 2 **Get a sandbox key** in the dashboard and start the 14-day trial.
- 3 **Call optimize** and read the plan straight into your ERP, quote or machine file.

Pricing

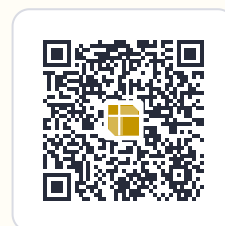
€49 /month

- **10,000 requests / month** — hard cap, no overage, no surprise bill.
- **14-day trial** · billed in EUR.
- Higher volume or separate staging keys? Tell us your numbers.

Try it on your cut list

Send us a sample job and we'll return the plan the API produces on your own data. Or start the 14-day trial and call it today.

support@cutoptim.com · cutoptim.com/engine/steel-profile-cutting



SCAN TO OPEN
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