

CutForge 3.0 — User Manual

CutForge 3.0 · program version 1.6.5

CutForge 3.0 · verzia programu 1.6.4
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Document version: 1.2 **Date:** September 12, 2026 **Who this is for:** A technician, planner, or foreman in a metalworking or steel workshop who uses CutForge to prepare and cut steel. This manual does not assume any programming knowledge.

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1. What CutForge Does and What to Expect

CutForge is a program that tells you **how to cut steel profiles (and plates) with the least waste and the least new material to buy**. The input is a list of parts you need to make. This can

be files from a CNC saw (NC1), an Excel bill of materials from the customer, or a list you type in by hand. CutForge counts these parts, matches them to their assemblies (if any), and arranges them onto stock bars — the way an experienced saw operator would, only faster and with less waste.

The program runs several calculation methods at once, from simple to mathematically exact. It picks the result that uses the least material. It always tries first to use what you already have in stock (offcuts from past orders) — that material is already paid for. If a piece is longer than the longest bar you can buy, the program splits it into two parts with the correct weld type.

The result is a **cutting plan** — exact instructions on how many bars to buy or take from stock, and how to cut each piece from them. You can print it as a PDF for the saw operator, send it to a tablet right at the saw, or export it as a material list for ordering. Once you confirm the plan, the program **deducts the material used from stock and adds any new usable offcuts by itself** — so the warehouse stays up to date without you doing any manual math.

Besides cutting, CutForge can also keep records of customers, orders, and suppliers, and track material traceability (heat numbers, certificates) needed for EN 1090 — but all of this is optional. If you just need to cut one order quickly, without paperwork, you can do that in a few minutes (chapter 3). If you need full records for certified production, the program can do that too (chapters 4, 7, and 11).

TIP: Practical tip: CutForge never asks you "where to save the file." All exports (PDF, Excel, labels) are saved automatically into the folder for that order. You do not need to search your disk — the program remembers the path for you.

2. First Start

Installing and Activating the License

- 1 The first time you start the program, it asks for a **license key** (in the form CF-XXXX-XXXX-XXXX). Enter it and click **Activate online**. The program checks the key online. After that, it is fully active.
- 2 If you do not have a license yet, you can start a **14-day trial**. Just enter your email (required) and, if you want, your company name.
- 3 If you close the dialog without a key or a trial, the program closes. You cannot work without a valid license or trial.

The program is **online-first, but it never locks you out just because the internet is down**. In the background, it checks your license on the server from time to time. If this check fails (network outage, antivirus, and so on), the program still works **fully for at least 30 more days**. After that, it works for 7 more days with a warning that you need to connect to the internet. Only after more than 37 days without a successful check does optimization and exporting stop. You can see the license status any time in the bottom bar of the program (the badge).

Where the Program Keeps Its Data

Everything you create or import in the program — orders, stock, exports, certificates — is saved into **one data folder**. By default this is Documents\CutForge on your disk. You can find and change it in **Settings -> Data folder** (for example, if you want your data on a shared network drive for the whole team). During normal work, the program never asks you "where to save" — everything goes into this folder automatically.

Basic Settings to Set Up RIGHT AWAY

Before you start your first order, check these settings (**Settings**, and also **Profile settings**). They have a direct effect on how accurate the cutting plan is:

Setting	Where	Why it matters
Kerf width	Settings -> Saw parameters	How much material the saw blade "eats" on each cut. Set it to match your real saw (typically 1.5–3 mm)
Left / right clamping	Settings -> Saw parameters	The dead zone at the ends of the bar that you cannot use (clamping jaw)
Bar lengths for each profile	Profile settings	The bar lengths you actually buy or have on hand (for example 12 m, 12.1 m, 15 m)
Saw (one or more)	Settings -> Saws	Enter at least one saw and the largest cross-section it can cut
Application language	Settings	Slovak is the default. You can switch to 20 other languages
Appearance (light/dark)	Settings or the "Appearance" menu	Purely cosmetic. You can switch it live at any time

Things to Remember

- The first time you start the program, it offers a **wizard for new users** (7 short steps: Welcome -> Warehouse -> Adding material -> Loading a project -> Optimization -> Results/export -> Where to find help). If you skip it, you can run it again any time via **Help -> Run the wizard again**.
- The keyboard shortcut **F1** opens the Help page for the exact part of the program you are working in, no matter where you are.
- Closing the app with the X button **does not fully close it** — it only hides into the system tray next to the clock (because of the tablet and background tasks that must keep running). To actually close it, right-click the tray icon and choose **Exit**.
- If the program crashes or the computer shuts down, the next time you start it, it **automatically offers to restore** your unfinished project ("Do you want to restore?"). You do not lose your work, even during a power outage.
- While it runs, the program saves your unfinished work in the background a few seconds after your last change. This is not a replacement for normally saving your project — it is only a safety net in case of a crash.
- If more than one person works with the program in the same workshop (for example, two planners), consider setting a shared network folder as the data root (Settings -> Data folder), so everyone sees the same stock and orders.

POZOR: Warning: If, after a longer time, the program shows a red **No license** message or a warning in the bottom bar, get ready to connect your computer to the internet. The program still works, but the safe "grace" period is running out (about 37 days total since the last successful check).

TIP: Practical tip: The license badge in the bottom bar has four states: red **No license**, orange **TRIAL (until DD)**, green **PRO LICENSE**, and in rare cases a warning state. Just glance at it now and then — you do not need to check it actively.

3. Quick Start — Your First Order in 10 Minutes

This procedure guides you from a completely empty program to a printed cutting plan. It assumes you have either NC1 files from the saw, an Excel bill of materials, or both.

- 1 On the main screen, click "**New project**" (or, if you just opened the program, on the startup screen).
- 2 The **import wizard** opens. On the first page, click "**Select NC1 files...**" and/or "**Select Excel/Word...**", and choose the files from the customer. If you do not have the customer set up yet, check "**Quick optimization (without a customer)**" — this creates a simple quick project.

- 3 Click **"Next"**. If you only have NC1 files, the wizard skips straight to the summary. If you also have an Excel file, the program tries to recognize the bill-of-materials format by itself.
- 4 If you have both NC1 and Excel at the same time, the program asks whether you want **"NC1 as authoritative"** (recommended, default). This means lengths and angles are taken from NC1 (more accurate), and Excel is only used to assign pieces to assemblies.
- 5 On the "Options" step, leave plates (PL/BL/FL) **unchecked** if they should not be cut on the saw together with the profiles. (They go into the separate Plates records instead.)
- 6 On the preview, check the number of parts and assemblies, then click **"Finish"**.
- 7 If a mismatches window appears (for example, a different piece count in NC1 than in the bill of materials), decide what to do for each row — see chapter 5.4. The import will not finish until you click through this.
- 8 In the main parts table, check whether an orange **"UNMAPPED"** warning is showing (an unmatched part) or red values in the weight column (a sign that a column may have been recognized wrong).
- 9 Click **"Optimize All"**. The program calculates the plan — two scenarios at once, with joining and without. After a moment, a results table appears with the number of bars, waste, and cuts for each profile.
- 10 A yellow bar appears: **"Check the cutting plan and confirm."** Click it and choose **"Save without changes"** (or first set up the offcut lengths). This deducts material from stock and adds new offcuts.
- 11 Click **"Export All (PDF)"**. This generates a separate PDF cutting plan for each profile, saved automatically into the order's folder.
- 12 Print the PDF for the saw operator. Done — your first order is ready to cut.

What happened in the background when you clicked "Optimize All": the program split the parts by profile. For each profile, it calculated several ways to arrange pieces on bars at once, from simple to mathematically exact, and picked the most economical one. If a piece was longer than the bar, it offered you a split with a weld. All of this happened in a few seconds to a few minutes, depending on the size of the order, without you having to set up anything by hand.

TIP: Practical tip: If you are not sure whether to use "Quick optimization" or a proper customer/order, do not worry — you can always save an in-progress quick project under a customer later. The first time you save, the program asks whether it is a quick project or should be filed under a customer.

POZOR: Warning: Until you confirm the yellow bar in step 10, stock stays unchanged. Feel free to check the result in the visualizer first (chapter 8.5) before you confirm the plan.

What to Do If the Order Is Not Simple

If the order also has plates, several material grades, or you make it in parts (stages), the quick procedure above still works as the basic outline. Just also read chapters 5 (import), 7 (warehouse), and 8.4–8.7 (splitting long pieces, re-optimization), where you can see how the program handles these more complex cases.

4. Customers, Orders, and Projects

CutForge organizes work into several levels:

- **Customer** = the company you are working for (name, company ID, contact). Add one in the **"Customers"** tab.
- **Order** = a specific order from a customer (for example, "Prešov Hall — steel structure"). When you add an order, the program **automatically creates a whole "paper file" on disk** for it — you do not need to do anything extra.

- In CutForge 3.0, **Project** means the same thing as Order. One order = one project on disk. (Note: some buttons in the interface say "project" even when they mean order — this is intentional.)
- **Stage** (in some places called "Part") is a subsection of an order. You use it when a large order is made in parts (see chapter 5.2 and Master Project below).

How to Add a Customer and an Order

- 1 In the "**Customers**" tab, click "**Add customer**" and fill in the name, company ID/VAT ID, and contact.
- 2 Select the customer from the list, switch to the "**Projects**" sub-tab, and click "**Add project**". Enter the name and the execution class under EN 1090 (EXC1-EXC4, if relevant).
- 3 Under each customer, you see 4 tabs: **Projects** (orders + EXC class), **Customer stock** (what belongs to them in the warehouse, if you use warehouse layering — chapter 7), **Bundles** (what arrived and from whom), and **Notes**.
- 4 Archive an order with the "**Archive**" button on its row. You can find archived orders under "**Project archive**" in the warehouse. They can be reactivated.

Suppliers

The same logic as with customers: records of names, contacts, rating (0–5 stars), company ID/VAT ID, address, and specialization. In addition, the "**Suppliers**" tab has sub-tabs:

Sub-tab	What it contains
Deliveries	Bundles of material received from this supplier (date, delivery note)
Certificates	Certificates (EN 10204 3.1/3.2) linked to their bundles
Complaints	A list of complaints with status (open/in progress/resolved). Use the " New complaint " button to add another
Notes	Free text

If you already received bundles before you had the supplier set up as a record (just as free-text names), the program offers to **bulk-create** suppliers from these old names the first time you open the Suppliers tab. You do not need to type them in one by one.

POZOR: Warning: Deleting a customer does not delete their old orders or stock. These stay in the records, just without a visible customer name. If you delete a customer by mistake, their old records are not lost — they just will not link back.

POZOR: Warning: If you later change a supplier's name without having them set up as a proper record (only as free text on old bundles), the old bundles get "disconnected" from their card. You cannot look them up under the new name afterward. It is better to set up a supplier as a proper record from their very first bundle.

Customer records, supplier records, and the extended warehouse (chapter 7) are only available in the **Complete** edition. In the **Basic** edition, you do not see these tabs (more in chapter 12).

How the Terms Fit Together

To help you find your way around the program, it helps to know the order in which these terms build on each other:

Customer -> Order (= Project) -> Stage -> Assembly -> Part -> Piece

- **Customer** — the company.
- **Order** (= project) — a specific order; it has its own "file" on disk.
- **Stage** (in some places in the program, "Part") — a subsection of an order, used when it is made step by step.

- **Assembly** — an assembled unit made of several parts (it has no file of its own, just a shared "tag" on the parts).
- **Part** — one row from NC1 or the bill of materials (profile, length, assembly...).
- **Piece** — a physically cut shape; it only exists after optimization (one part with a quantity of 5 becomes 5 pieces, or more, if one of them is split with a weld).

The material log (chapter 11) works at the **piece** level — so you will also see separately split (welded) segments of a single part there.

Combining Several Orders into One Optimization

In the top bar of the program (above the parts table, always visible), besides the current order switcher, there is also a "**Merge**" button. This is not for cutting within one order — it is for combining several separate orders at once.

You check the boxes for several orders — even from different customers, if you want — and the program combines their parts into one shared optimization. This way, it can save material across all of them at once (for example, using offcuts from one smaller order to help cut another), not just within each order on its own. After it finishes calculating, it splits the result back into the original orders by itself.

- 1 In the top bar, click "**Merge**".
- 2 Check the orders you want to combine into one shared optimization.
- 3 Confirm. The program calculates a shared plan and, once done, splits it back among the selected orders. After that, you work with the result the same way as with a normal optimization (chapter 8).

Warning: Do not confuse this with the "**Merge stages**" button in the order overview (chapter 11) — that one merges stages **INSIDE** one order. The "Merge" button, on the other hand, works **ACROSS** several separate orders, even from different customers. Both use the same icon in the program, but they do completely different things. Before you confirm, always check the dialog to see which orders you actually checked.

5. Importing Parts (Bills of Materials and NC1 Files)

5.1 Which Files the Program Can Read

File type	Extension	What the program reads from it	Note
NC1 (output from a Ficep CNC saw)	.nc1, .nc	exact profile, length, cut angles, grade, piece ID	The source of exact geometry — without a bill of materials, it does not know which assembly a part belongs to
Excel/CSV bill of materials (common layouts)	.xlsx, .xslm, .xls, .csv	assembly, part, quantity, profile, length, grade, weight, order name	The program automatically recognizes 6 common layouts, plus it has a universal recognizer for any other layout
Manually saved template (custom format)	various	based on what you mapped by hand once	Used when a customer always sends the same "unusual" Excel format

The program **recognizes the format by itself, no matter what language it is in**. It has a database of more than a thousand column names in Slovak, Czech, Polish, German, English, and other languages (including Hungarian, Romanian, and French). "Profil", "Profile", "Querschnitt", and similar variants all mean the same thing to it. Recognition also does not rely on the column name alone — it also checks whether the values in the column make sense at all (for example, length must be a reasonable number in millimeters, and a profile must match the catalog of known

cross-sections). This is how the program reliably avoids mixing up, for example, a part ID with a length.

If a customer always sends the same non-standard format (for example, their own in-house export from another system), an **external add-on (plugin)** can be prepared for the program. This is a custom solution — you can ask support for it (see "**Request a parser**" in Settings, chapter 12).

Once a parser is ready, you still need to download it into the program — this does not happen by itself. In Settings, click "**Download parsers**" (next to the "Request a parser" button). The program downloads the parser profiles prepared for your company from the server and merges them into the local parsers (they show up right away on your next NC1/Excel import), and it reports how many were added, updated, deleted, or skipped. Without this step, the parser request "gets lost" — the program expects you to pick up the result yourself.

5.2 Import Wizard Step by Step

You start an import with the "**Create new project**" button (a new project, overwrites existing data) or "**Add to project**" (adds to a project already in progress). The wizard has these steps:

- 1 **Welcome** — choose your sources: "Select NC1 files...", "Select Excel/Word...", and optionally "Select plate NC1 files..." (separate NC1 files for plates). If you use customers, you also select the customer/order here, or add new ones right away with "+ Add customer" / "+ Add project".
- 2 **Choosing the Excel sheet** — shown only if the Excel file has more than one sheet. The program suggests the most likely one (rating).
- 3 **Format recognition** — the program shows what it thinks it found. You can either leave "Use auto-detection" on, or switch to manual mapping (chapter 5.3).
- 4 **Processing options** — whether the quantity in Excel is counted as a total or per single assembly, whether empty merged cells should be filled in, and most importantly, the "**Include PL/BL/FL**" **checkboxes** (unchecked by default, meaning plates go into separate records, not to the saw). Here you can also save the current recognition as a named template for future use.
- 5 **Preview** — a summary (number of assemblies/parts/pieces) and warnings about any problems. At this point, the parser has actually already run.
- 6 **Finish** — a summary, including a breakdown of any mismatches.

If you have both NC1 and Excel at the same time, the program asks whether **NC1 should be the authoritative source of geometry** (recommended). Exact dimensions and angles are always taken from NC1, and the bill of materials is only used to assign pieces to assemblies. A separate window handles mismatches between them (chapter 5.4).

If an order is made in parts (chapter 11 — stages), you use the "**Add part**" button instead of the usual "Add to project". The important difference is that this route also takes you through the same wizard, but at the end it asks for the **name of the new stage** and moves the newly imported parts straight into it, without touching stages already in progress.

How "Quantity" Is Counted — Total or Per Assembly

On the "Options" step, you choose how the piece-count column in Excel should be read:

- **Qty = total count** — the number in the column is directly the total number of pieces to make.
- **Qty = count per assembly** — the number tells you how many pieces are in ONE assembly. The program calculates the total by multiplying by the number of assemblies.

If you choose this wrong, the total number of pieces made will be either too high or too low. If you are not sure, compare the piece count in the preview (step 6) with the real count in the customer's original file.

TIP: Practical tip: If a customer's Excel file is in a completely unusual format that the program keeps reading wrong, save the mapping as a **named template** (the "Save as template" checkbox right on the Options step). Next time, it will not ask again.

5.3 When the Program Does Not Recognize Columns — Manual Assignment

If automatic detection fails, you have two options:

a) Simple mapping right in the wizard — you click cells in the preview one by one and assign them a meaning (assembly, part, quantity, profile, length). The program can see the first 30 rows of data while you do this.

b) An advanced dialog outside the wizard (available from a button in the main parts table) — here you **right-click** directly on cells, rows, or column headers, and choose from the context menu what that column/row means (for example, "Column X = profile"). The program automatically suggests a recognition here, which you just fine-tune. You then save the mapping with the "**Save profile**" button — it will be used automatically next time.

This advanced dialog can also **generate an automatic recognizer using AI**. From your markings — both "this IS a profile" and "this is NOT a profile" — it builds a context that gets sent off for evaluation, and a finished rule comes back for future imports of the same format.

If you already have NC1 files loaded, you only need to mark 2–3 columns in manual mapping (assembly + part) — the program takes exact geometry from NC1 anyway.

The preview in the advanced dialog is limited to roughly the first 200 rows of the Excel/CSV file — for larger files this is usually enough for correct recognition, because the program only needs to see the repeating pattern, not the whole document.

POZOR: Warning: Until you fill in all the required fields (at least assembly + part, or, for a completely new project without NC1, also profile + length), the "Save profile" button simply does not appear. The program tells you about missing fields with text, not with an error window.

5.4 Mismatch Between NC1 and the Bill of Materials

When the piece count in the NC1 files and in the bill of materials does not match (or a part is missing on one side), a mismatches window opens, split into **three tabs**:

Tab	What it is about	What you can do
NC1 without assembly	The part has geometry from NC1, but it is not known which assembly it belongs to	" Assign " — choose an existing assembly or type a new one
Bill of materials without NC1	The bill of materials mentions a part for which no NC1 file exists	Check " Ignore " (nothing is created) or " Add manually " (you fill in profile/length by hand). You can also " Select " several rows in bulk and add them at once
Different counts	A different piece count in NC1 and in the bill of materials	" Breakdown " shows exactly where the part occurs in the assemblies; if NC1 has fewer pieces, " Fill in " adds the missing ones

NC1 is always the source of truth for counts — unless you say otherwise. Plates and gratings never end up in this window at all; they are ignored in advance (they do not go to the saw). The import will not finish until you close the window with the "**Continue with import**" button. You can also generate a PDF report of the mismatches for a later check.

Piece Count Check During Import

A bill of materials often contains figures that let the program verify it read the counts correctly — **the weight of one piece, the total weight of the row, and the total weight at the end of the list**. During import the program checks every row (weight of 1 pc × quantity must equal the row's total weight) and compares the sum of all parts with the footer of the list.

- **If everything matches**, the import continues without questions.

- **If a row only matches after multiplying by the number of assemblies** (some CAD exports list the main part of an assembly per 1 assembly and the other parts as totals), the program **corrects the count by itself** and tells you which rows it corrected.
- **If it does not match**, the import **stops** with the window "BOM check — piece counts DO NOT MATCH", listing the rows that do not match. The recommended choice is **"Cancel import"** and checking the bill of materials (or sending it to support). "Continue anyway" finishes the import at your own responsibility — then verify the counts against the drawing.

The **weight check** (weight from the BOM vs. weight calculated from the profile and length) behaves the same way: when the differences are exactly 2×, 3×..., it almost always means a missing multiplication by the number of assemblies, so the import also stops with the option to cancel it. The full list of suspicious parts is saved as a PDF "Kontrola_hmotnosti_..." in the job folder.

POZOR: Warning: CutForge does not apply any tolerances — counts and dimensions are compared exactly. If the customer's bill of materials has rounded lengths and NC1 has exact ones, you will see this as a mismatch. Check which source is correct.

5.5 Adding a Part Manually and Pasting from Clipboard

If you need to add a piece for which you have no file:

- 1 Click **"Add part manually"**. A form opens where you fill in the profile, length, quantity, and optionally the assembly, grade, and cut angles.

If you have several pieces ready in Excel at once (or want to type them quickly):

- 1 Copy rows in the form PROFILE;ID;LENGTH;QUANTITY;ASSEMBLY;GRADE (separated by semicolons or tabs — exactly as when copying from Excel).
- 2 Click **"Paste from clipboard"**. The program processes the rows and adds them to the parts list. It lists any faulty rows in a summary, while the correct ones are added.

Both methods can be fully undone with **Undo (Ctrl+Z)**.

6. Parts Table — What Each Column Means

After the import, you see the main table with all the parts. Above it, you can switch the view to just **"Profiles"** (what gets cut on the saw) or **"Plates"** (plates, kept in separate records).

Column	What it means	Color warning
Assembly	Which assembly the part belongs to	Orange + struck through = the assembly is marked "Made elsewhere" (not cut here)
Profile	Cross-section type (for example IPE180)	—
Grade	Material grade (for example S355J2)	Green = filled in, gray = missing
ID	Piece identifier from NC1/the bill of materials	—
Length	Piece length in mm	—
Qty	How many physical pieces of this length/assembly	—
Total length	Length × quantity	—
Weight (1 pc)	The weight of one piece	Red = suspicious — the parsed value differs a lot from the calculated one (a sign that a column in Excel was read wrong)
Total kg	Quantity × weight per piece	same rule as above
Preview	Button — opens the technical drawing of the piece	Active only if a matching NC1 file is found
Edit	A field for changing the piece quantity	—

Column	What it means	Color warning
Actions	Delete a group / delete the whole profile	—

The whole row is also colored based on where the part came from: **yellow** = added manually, **green** = from the bill of materials without NC1, no color = from NC1.

Above the table, watch the part-count message. **Orange** means there is a part with an unmatched assembly ("**UNMAPPED**") — check the bill-of-materials format. A milder yellow warning just means suspicious weights.

What You Can Do with a Part or Assembly (Right-click)

- **Plate -> " Move to Profiles (cut on the saw)"** — if a specific plate should, after all, be cut on the saw together with the profiles.
- **Assembly -> " Assembly X — Made elsewhere (skip)"** — temporarily excludes the assembly from cutting without deleting it (reversible the same way).
- **Assembly -> " Completely remove assembly"** — permanently deletes all parts of the assembly (reversible with Ctrl+Z until you close the program).
- The buttons in the "Actions" column — delete just one group of pieces, or a whole profile at once.

TIP: Practical tip: Use "Made elsewhere" when another workshop or subcontractor makes that assembly. The part stays in the records (for example, for the material log), it just is not counted in the cutting plan.

Switching Between Profiles and Plates

Above the table, there are two toggle buttons — "**Profiles (N)**" and "☐ **Plates (N)**". The number in parentheses shows how many items that group contains. A part is treated as a "plate" when its profile has the PL/BL/FL prefix **and** it has not been manually switched to cutting on the saw (see the context menu above). So after you use "Move to Profiles", the same piece shows up in the other view.

How the Program Counts Quantities

If an NC1 file or a row in the bill of materials says "quantity = 5", the program internally expands this into 5 separate physical pieces. (This is why, after import, you always see qty = 1 for an individual row in the table, but the totals and the "Qty" field for the group are counted correctly.) For most orders, this does not change anything you see — it just guarantees accuracy during optimization.

7. Material Warehouse

7.1 Why Use the Warehouse, and What Happens If I Do Not

The warehouse keeps track of what you physically have on hand — new bars and usable offcuts from past orders — and tells the optimizer where to take material from first. **The warehouse has "layers" of complexity.** At its base, it is a simple list of bars (free, even in the Basic edition). Advanced features (reordering, receiving bundles, certificates, movement history, customers/orders) are switched on one by one in Settings, and are only available in the **Complete** edition.

If you do not use the warehouse at all (leave it empty), the program simply plans cutting from new bars only — nothing breaks, you just do not save on offcuts. If you do use the warehouse, the program offers to deduct the material used and add new offcuts after every optimization (chapter 8.6).

The warehouse is split into tabs by **profile family** — I (IPE/UB/UC...), H (HEA/HEB/HEM), U (UNP/UPE), L (angles), Box (SHS/RHS/CHS), PL (plates — if you see them here at all; they normally have their own separate plate stock, chapter 7.5), and Other. The tab name also shows the number of items in

it.

Above the table, you have:

Tool	What it does
Warehouse locations	Manages named locations in the workshop (rack, hall...) and their priority — where the program takes material from first
Filters	Filters by text, length range, location, grade, and type (raw/offcut) all at once. The button shows how many filters are currently active
Project archive	A list of archived orders, with the option to reactivate them
Help	A quick overview and a clear table showing which advanced warehouse levels you currently have switched on
Search + Min./Max. length	A quick text and number filter right above the table
Clear filters	Resets all filters to their default (off) state
Undo	The same global Undo as elsewhere in the program (chapter 13), directly available here in the warehouse too
Delete entire warehouse	Completely deletes all items (with confirmation, reversible with Undo) — use with care

If a profile drops below the minimum stock you set (the "Reordering" feature, if switched on), a yellow **warning banner** appears above the table, showing which profiles need reordering.

You set the minimum stock in the "**POZOR: Minimum stock**" section below the warehouse table:

- 1 In the "**Add item**" form above, enter the profile and grade you want to set the rule for.
- 2 In the "Minimum stock" section, enter the **Min. piece count** and click "**Set minimum stock**".
- 3 Enter 0 to cancel the rule.

Besides this banner, there is a **second, independent thing — the material order for a specific job**. What you need to buy for the job (new bars that are not in stock) is shown after optimization by the "**Material order**" button above the results — see chapter 8.6 for details. Nothing pops up by itself after optimization any more: the technician first chooses the plan for each profile (with joining / without joining / short bars) and only then orders.

Warning: The minimum-stock banner and the material order are not the same thing. The banner warns you when stock drops below the rule you set above. The material order tells you about the bars you are missing for **this particular job**, according to the plans you have selected.

When deducting from stock, the program tells bars apart by **grade and heat number** as well, not just by profile and length. If you have two identical IPE200 bars in one location — one S235 and one S355 — the one the optimization actually used is the one deducted. For the material journal and EN 1090 documents (chapter 11), this means the cut piece carries the correct heat number.

7.2 Receiving Material and Bundles

The basic way to add a bar to the warehouse:

- 1 Click "**Add item**".
- 2 Fill in the profile (the program suggests names by itself, following the EN/BS/AISC/JIS/IS standards, plus your own custom profiles), the length, quantity, type (raw material/offcut), location, and optionally the grade.
- 3 Confirm. The dialog stays open so you can add several items quickly, one after another.

If you also need to record **where the material came from** (supplier, delivery note, heat number for traceability), use the advanced feature (it must be switched on in Settings):

- 1 Click "**Receive bundle**".

- 2 Fill in the supplier (or add a new one right here), the delivery note, heat number, date, profile, grade, length (preset to 3000/6000/12100 mm, or your own), quantity, and location.
- 3 Once confirmed, a bundle record is created, and the bars are automatically added to the warehouse, linked to the bundle. You can attach a certificate (a PDF of the mill certificate) to the bundle at any later time.

The **"Bundle browser"** button shows you an archive of all received bundles, with the option to search and view details, including the certificate. You can also look up certificates separately via **"Search certificate"** — by heat number, grade, or supplier, including which bundles reference it.

Every warehouse change (adding, issuing, receiving a bundle, correcting) — as long as you have the **"Movement history"** feature switched on — is recorded into a permanent audit trail (who/when/how much), which you can filter and review afterward using the **"Movement history"** button.

7.3 Offcuts (Leftovers) and Reusing Them

An offcut is created **automatically** after optimization, when a bar has been cut and a usable piece is left over (longer than the "usable offcut" threshold you set). You do not have to do anything by hand — the program adds it to the warehouse by itself, as an item of type "offcut", inheriting the grade and location of the original bar.

Every new offcut gets a **mark in the form PROFILE-LENGTH-#number**, for example **HEA100-8336-#14**. You will see the same mark in the cutting plan (Waste column), in the visualization, in the warehouse and on the tablet — the saw operator writes it on the piece with a marker. The number continues after the highest number of that profile in stock, so it can never be confused with a piece that is already in stock. Even if the number on the piece wears off, you can still find the piece in stock by its profile and length. When you adjust an offcut's length, the number stays. Offcuts saved before marks were introduced keep their original identifier.

An offcut set aside at the saw on the tablet (scanned and physically put away by the saw operator) automatically shows up in the warehouse on the computer through network sync (see 7.1 and chapter 10) — you do not need to type it in by hand.

If you want to add an offcut by hand (for example, you found it during a stock count), use "Add item" with type "offcut".

7.4 Reservations and Stocktaking

The warehouse has **two independent ways to block** material:

- **"Reserve (DO NOT TAKE)"** — right-click an item -> **"Reserve (DO NOT TAKE)"**. The item is marked in the table with a red before its name. This means someone has manually blocked it and it should not be used, even though it would otherwise fit the plan. If a tablet is paired, the saw operator gets a warning when scanning such a piece.
- **Assignment to a customer/order** (if this warehouse level is switched on) — the material is "reserved" for a specific order and is only visible in its warehouse view.

CutForge does not have a separate wizard for **stocktaking** — you do it directly with the existing tools: double-click a profile in the table to open a detail view grouped by grade (actual quantities), and fix any differences by hand, by adding or deleting items. If you have a tablet, you can **import the whole warehouse from the phone** — but this **overwrites the entire warehouse** with data from the tablet, so only use it when you are sure the phone has the more current state.

A few more practical rules:

- Search in the profile/grade fields works as "contains" — type "60" and you will see IPE60, HEA60, and similar.
- Deleting a row in the table deletes **exactly that one specific piece**, not "everything that looks the same" — safe even when you have several bundles with the same length.

- Green color next to a warehouse location in the table = the location with the highest priority — the program takes material from there first.
- Automatic two-way sync with the server/tablet runs in the background roughly every 8 seconds (you can turn it off or slow it down in Settings). The "**Sync warehouse**" button is only there for when you need it right now.

7.5 Plate Stock

Plates (PL/BL/FL) have their **own, completely separate, simpler stock** — opened with its own "**Plate stock**" button. It is only for record-keeping (for example, heat numbers for traceability on EXC3 orders); CutForge does not optimize plates (no nesting of shapes on a plate). Plate stock **has no Undo button of its own** and does not sync through the server the way profile stock does.

POZOR: Warning: If you do not see some advanced warehouse buttons (bundles, certificates, movement history), check two things: whether that level is switched on in Settings -> Warehouse, and whether you have the Complete edition (in the Basic edition, these buttons are always hidden).

8. Cutting Optimization

8.1 How to Start It and What Happens

Click "**Optimize All**". The program goes through this sequence:

- 1 It checks whether any piece does not fit on an available bar at all (see chapter 8.4 — force-split).
- 2 If you have anything in stock, it asks which items to use or ignore for this optimization.
- 3 It runs the calculation in the background — **it always calculates both scenarios at once:** with joining (welding shorter pieces onto one bar) and without.
- 4 A results table appears, broken down by profile — number of bars, cuts, waste, joints, and usable offcuts.

Internally, the program runs up to 8 different calculation methods against each other at once, from simple to mathematically exact, and picks the one that uses the least material by itself — you do not have to choose anything by hand. If you have the exact mathematical solver (CP-SAT) switched on, the calculation can take longer on large orders, but it runs in the background without freezing the program.

While it runs, you see **a single progress window** for the whole process — the main optimization and the alternative plan with a shorter bar (chapter 8.7). It shows which profile is being calculated, one shared progress bar in percent, and an **estimated time remaining**. The estimate is refined during the calculation based on how fast it is actually going, and the program learns from previous optimizations — the first runs on a new computer may be less accurate. The window closes only when everything is done.

What Happens "Under the Hood" When Choosing the Best Plan

You do not need to understand this in detail to use the program, but it is useful to know at least this much:

- The program always **puts minimizing the number of new bars first**. A new bar is the "most expensive" item in its scoring, so it would rather make a few more welds than buy an extra bar (as long as the profile settings allow this at all).
- The program **does not count waste on bars from stock as "loss"** as strictly as waste on new bars. The logic is that material from stock is already paid for, so the main goal is to empty the warehouse first, not to minimize every last centimeter on a stock bar at all costs.

- If several small usable offcuts are created instead of one larger one, the program slightly "penalizes" this in its scoring. The goal is not to break material up into lots of small pieces that are harder to use later.
- For profiles that have the same angled cut on neighboring pieces, the program tries to "chain" the pieces together (more on this in chapter 15, the term angle nesting). This saves one cut and a bit of material, but it only works for symmetric cross-sections (I, HEA/HEB/HEM, square/rectangular tubes, solid plates...), not for non-symmetric channels (U, UPE, L-angles).

Assigning a Profile to a Saw

If you have **more than one saw** in the workshop (set up in Settings -> Saws), a drop-down list to pick the specific saw appears in the results table for each profile. The program automatically suggests the smallest saw that can handle that profile's size. A profile that does not fit any of the saws is separated out and clearly marked, so you know it needs a different solution (outsourcing, manual cutting).

How to Read the Results Table

For each profile, you see a row with these columns:

Column	What it means
Profile	The profile name; orange means the profile was split by material grade
Bars	How many bars the plan needs (a N TIP: -K warning means the no-joining scenario would save K bars compared to the current one)
Cuts	Total number of physical cuts
Waste	Real (unusable) waste — usable offcuts are not counted here, they go into stock
Joints	Number of welds on split pieces; click the cell to open a check for whether the weld needs UT (ultrasonic) inspection
Offcuts	Number of usable offcuts created, which go into stock
Cutting mode	The Economical/Paired/Assembly switch + the Joining button (chapter 8.2)
PDF, Visualize, Re-Opt, Alt,	Buttons — see chapters 8.5, 8.7, 9

8.2 Cutting Mode for Each Profile (Economical / Paired / Assembly / Joining)

For each profile in the results table, you have a cutting-mode switch — **switching is instant, with no recalculation**. The program just picks a different one from the plans it has already calculated:

Mode	When it is available	What it does
Economical	always	The basic strategy aimed at the least waste
Paired cutting	only for select profiles (typically I/H cross-sections), when the program actually found paired cuts	Cuts two bars at once with a single cut — saves time on the saw, not necessarily material
By assembly	for every profile that has at least one part assigned to an assembly (from the bill of materials or NC1) — the by-assembly plan is then always calculated, it just is never picked as the default	Tries to fit a whole assembly onto one bar or neighboring bars — clearer for assembly, may have a bit more waste
Joining /	a separate button (not a mode)	Switches between the scenario with welding shorter pieces together and without, for this profile only

8.3 With Joining or Without — What to Choose

- **With joining (default in the table)** — the program is allowed to weld shorter pieces onto one bar (joining). Usually less waste, but more welds.
- **Without joining** — no welding of shorter pieces, just fitting pieces "as they come." Less welding work, but usually more waste or more bars.

In the results table, in the "Bars" column, you will sometimes see a **N TIP: -K** warning. This means the scenario without joining would save K bars if you turned joining on. If your company never does joining, switch it off for good in **Settings -> "Do joining"** — the whole joining button then disappears on the tablet too.

8.4 A Part Longer Than the Bar (Splitting and Welds)

If a piece does not fit on the longest available bar, **the program detects this before optimization** and offers a dialog to split it into two (or more) parts with a weld. This is not an error — it is a normal step for long parts.

In the dialog, you choose:

- the **joint type** — butt, finger/stepped (Z-joint), or mitre. The program suggests a type based on what is common for that profile,
- automatic or manual splitting (exactly where the cut should fall).

If, instead of splitting, you open the profile settings directly from the dialog (for example, to change the available bar length), the program **automatically restarts the optimization** once you close it.

The program also has a **"weld through a hole"** safeguard. After optimization, it checks whether the proposed weld falls exactly through a hole in the material. If it does, it turns the piece around or shifts the weld by itself, to go around the hole. If this cannot be fixed automatically, it warns you.

TIP: Practical tip: You can set the weld type and root gap permanently per profile in **Profile settings -> Edit optimization / joining** (chapter 12) — you do not need to deal with it again in every force-split dialog.

8.5 How to Read the Results and the Plan Visualization

Click **"Visualize"** next to a profile — a graphical window with the cutting plan opens. Color legend:

What you see	What it means
Colored trapezoid	A part; same color = same assembly
Gray area on the right of the bar	Real waste
Yellow area with a label	A usable offcut that will go into stock
Dashed outline + hatching	A part "pre-produced" from another stage (Smart Fill)
Dotted outline	An adopted unassigned piece
Thick purple line on the edge	A split part (weld A/B)
Label ..._A S3 / ..._B S3	A joined piece with its joint number — A and B of the same joint have the same number and the same color
Green cross-hatching	The piece has already actually been cut, according to the tablet
Blue diagonal hatching	The piece is being cut on the saw right now

Turning Smart Fill on/off: Whether optimization is allowed to create these "pre-produced" parts at all is controlled by the **"Pre-production from other stages"** checkbox during import — it is only visible for a multi-stage order (Master Project, Complete edition). On: the optimizer may fill free space on a bar with pieces from another stage of the same order. Off: cutting is done strictly from the current stage only, even at the cost of more waste. The change is saved instantly.

Joint numbers. With joining, the same part can have many joints of different lengths (e.g. A 4648 + B 1487, A 4346 + B 1790). So that they do not get mixed up at the saw, every joint gets a number **S1, S2, S3...** — A and B of the same joint share the number and, in the drawing, also the color. The saw operator writes the number (e.g. "S3" in chalk) on both pieces and the welder joins them accordingly. The same number appears in the cutting plan PDF, on the tablet and in the material log. Bars carrying the two halves of the same joint are placed **one after another** so they are cut in sequence (when one bar carries many joints at once, not all of them can be next to it — then the number helps). The bar order is only a sorting; the optimization itself (bars, pieces, waste) does not change.

Clicking a part shows a tooltip with its ID, length, and angles; for a joined piece also **"Joint S3: A 4042 mm (bar 3) + B 2092 mm (bar 4)"** — where the other half is. You can also **drag a part with the mouse** to another position/bar, and zoom with the scroll wheel + Ctrl. If a tablet is paired, the window downloads the current cutting status by itself every few seconds — you do not have to click anything (this can be switched off by unchecking "auto").

You open the preview of a single piece (a technical drawing with dimensions) using the button next to the part in the main table. If a part has no source NC1 file (it came from Excel or was added manually), you only see an approximate rectangle with the note **"No NC data"** — this is not an error, the program just does not have exact geometry. The program also finds the NC file of a part when the file is named differently from the part (some CAD systems name files their own way). If the outline in the NC file itself is faulty (non-standard export), the preview draws a straight profile from the dimensions with the holes from the NC and warns "The outline in the NC file is faulty... check hole positions".

8.6 Confirming the Plan and Deducting Stock

After optimization, a yellow bar appears: **"Check the cutting plan and confirm."** Until you confirm it, **stock does not change**. You have three options:

- 1 **Adjust offcut lengths** — opens an editor where you can rename offcuts, adjust their target length, or mark them as scrap.
- 2 **Save without changes** — confirms the plan as it is.
- 3 **Not now** — nothing happens, the bar stays.

Exactly how stock changes depends on whether you have a tablet paired:

- **With a tablet online** — stock changes **only based on what the saw operator has actually cut** (reported from the tablet), not automatically for the whole plan. If nothing has been reported yet, the program offers you a manual confirmation: "the whole plan is cut".
- **Without a tablet (offline)** — the program offers a preview of the projected warehouse state and lets you save this projection. You can correct it by hand later, to match reality.

After saving, the program also offers to print **QR labels** for the offcuts just saved, and shows a summary (how much was deducted/added).

POZOR: Warning: This distinction matters — when online, stock never changes "blindly" based on the plan by itself. This is so offcuts do not end up in stock before they have actually been physically cut.

Material Order

What you need to buy for the job is shown by the **"Material order"** button in the row of buttons above the optimization results. Steps:

- 1 After optimization, choose for each profile the plan that will be cut — **with joining, without joining or short bars (6000)**. Each profile can have a different plan (a mix is fine).

- 2 Click "**Material order**". The window shows which plan is used for which profile, and a table of new bars that are not in stock: profile, bar length, quantity, total metres and approximate weight, with a Total row.
- 3 "**Save as PDF**" — saves the order into the job folder and offers to open it (handy for sending to your supplier).
- 4 "**Save stock**" — runs the same plan confirmation and stock deduction as the yellow bar above (the button is active only when there is something to save).

If everything is covered from stock, the window says that nothing needs to be ordered. If you change a profile's plan after opening the order, open the order again — it is recalculated from the new selection.

8.7 Re-cutting or Changing an Order During Production (Re-optimization)

There are two different features — do not confuse them:

- "**Re-Opt**" (a button next to one profile in the results table) — recalculates **the whole profile from scratch**; the other profiles stay unchanged. Use this when, for example, you changed the profile settings or added parts.
- "**Optimize current state**" — takes into account **what has already actually been cut on the saw** (based on reports from the tablet). The program downloads what is done, shows you a preview of what will change in stock, and recalculates the plan only for the remaining (uncut) pieces. Pieces already cut stay checked off even after the new calculation.

If you have a tablet paired, a new version of the plan is automatically sent to it after this re-optimization. The saw operator gets a notice that the plan has changed, but they do not lose their work so far.

After the main optimization, the program also always automatically calculates an **alternative plan with a shorter bar** (the "6000" button — 6 m by default). Switching to it is instant, nothing needs to be recalculated — useful when you do not have long bars on hand at that moment. It is calculated right after the main optimization, in the same progress window. For short bars the program uses only the fast calculation methods (no exact solver), because there they almost always give the same result in a fraction of the time.

9. Outputs and Printing

All exports are **saved automatically** into the folder for that order (in an "Exports" subfolder) — the program never asks where to save. The exact location depends on which order you currently have open:

- 1 If you are working on an order under a customer (stages), it goes into the folder for that order and stage.
- 2 If you set your own default export path in Settings, that one is used.
- 3 If it is a "quick optimization" without a customer, exports are saved into a separate quick-projects folder under the data root.

I want	Button	What comes out
Cutting plan for the saw operator — all profiles	"Export All (PDF)"	One PDF per profile (bar diagram, cuts, joints)
Cutting plan for just one profile	"PDF" on the profile's row	The same, just for that one profile
List of bars to order/issue	"Export Material List (PDF)"	One summary PDF

I want	Button	What comes out
List of assemblies for fitting	"Generate Assembly List (PDF)"	A PDF with a breakdown of assemblies and their parts
Data for the tablet at the saw	"Export for mobile"	A JSON export + upload to the server, so the tablet can see it
Plate bill of materials for ordering	" Export plates (XLSX)"	An Excel file with a list of plates
QR labels for offcuts and parts	"Generate labels"	One PDF with all the labels for the project
Material document for the audit	" Material journal (PDF)"	A table of grade/heat number/certificate for every cut piece (more in chapter 11)
Preview of how much material is left after cutting	" Projected warehouse state"	A preview + the option to save the projection into stock (offline)

If you have **more than one saw** in the workshop, both PDF and mobile exports are automatically split into separate folders/files by the assigned saw. Profiles that do not fit any saw are exported separately, with a warning.

The program also automatically generates a short **diagnostic report** after EVERY optimization (no clicking needed) — this is a technical overview for any later check, and you do not normally need to deal with it. If the program could not fit all pieces into the plan for some profile (an exceptional situation), you can also generate a detailed **plan validation report** on request, listing the discrepancies.

POZOR: Warning — EXC3 class: if an order has execution class EXC3 and bars without a heat number would be used, exporting (PDF/labels/mobile) requires **double confirmation** and is logged in the audit trail. This is a safeguard for certified production, not a program error.

TIP: Practical tip: If it looks like an export button is missing (for example, "Export for mobile" or "Generate labels"), check two things: whether the needed add-on/feature is switched on in Settings (labels can be fully switched off in the service menu, chapter 12), and whether you have an active Mobile add-on.

9.1 PDF Appearance Settings (Format, Colours, Logo, Drawings)

You set up the look of all PDFs yourself in the " **PDF settings**" window — open it with the button in the results (next to "Material order") or in **Settings -> " PDF exports"**. You click options on the left, and after every change the **live preview of the real PDF** on the right is redrawn — exactly as you will print it.

- 1 At the top, choose the **document**: cutting plan, material order, material list, material log, assembly list, weight check, import mismatches (and labels, if you use them).
- 2 **Page**: size A4 to A0, landscape or portrait, font size.
- 3 **Cutting plan content**: coloured header, bar diagram (and its height), which table columns you want (assembly, length, angles, waste, source, heat) and **part drawings at the end** — no drawings, only parts with angled cuts, or all parts.
- 4 **Colours** (shared by all PDFs): header and table, header text, project band, table grid, alternate rows. "Default colours" brings back the CutForge blue.
- 5 **Company and logo**: "Choose logo..." (PNG or JPG), company name in the header and address/contact in the footer. Until you choose your own logo, the cutting plan header shows the CutForge logo; for no logo at all, untick "Show logo".
- 6 Click "**Save**" — the settings apply to all further exports. The change can be undone with Ctrl+Z. If you close the window with unsaved changes, it asks whether to save them.

When you open the window from the results, the preview shows the cutting plan and material list of your order; from Settings, it shows sample data. The "Open PDF" button opens the preview in your PDF viewer.

Part drawings at the end of the cutting plan: each part is drawn once (V1, V2...) from its NC file — the same drawing as in the part preview in the program, with dimensions and angles. In the table, the piece has a reference "-> V3", so the saw operator finds the drawing right away. A part without an NC file is not drawn.

TIP: Practical tip: A long list of pieces on one bar (for example 30 pieces) is split across several pages and the table header is repeated on the next page. The offcut mark (for example HEA100-8336-#14) sits under the number in the Waste column and always fits in the cell.

10. Tablet at the Saw (Mobile App)

If you have purchased the **Mobile add-on**, you can send the cutting plan straight to a tablet at the saw, instead of printing paper.

What the saw operator sees on the tablet: a list of pieces to cut, with exact length and angles, and they can **check off individual pieces as done** right at the saw (by scanning or tapping). Reserved material ("DO NOT TAKE") is highlighted with a warning when scanned.

What the technician sees live on the computer:

- The "Tablet online" badge in the bottom bar shows whether the tablet is currently connected.
- The cutting plan visualizer (chapter 8.5) fills itself in with green (done) / blue (being cut now) hatching, based on what the saw operator has checked off — automatically, every few seconds.
- In paired mode, stock changes **only based on cutting actually reported**, not automatically based on the plan (chapter 8.6).
- In Settings, you can choose to allow the tablet to **request a re-optimization remotely** on this computer, even when no one is sitting at it. The result is then prepared automatically, and the program notifies you with a bubble next to the clock.

Working offline: if the tablet loses its connection to the server, you can keep working offline. Once the connection is restored, the state catches up (sync).

Pairing the tablet: you do this once, via Settings -> Sync -> **"Pair device"** (you need the license key; the device pairs with your company). Once paired, you also see the device name and status (Paired/Not paired) in Settings.

How the tablet knows which piece is which: even if you rework the cutting plan in the meantime (for example, via Re-Opt or after receiving new material), the tablet can still match pieces already checked off to their new position in the recalculated plan — you do not need to worry that recalculating would "erase" the saw operator's progress.

If an order grows another stage, or gets reworked, a new version is sent to the tablet (numbered in sequence v1, v2, v3...), and the saw operator gets a notice about the change.

TIP: Practical tip: An offcut set aside at the saw shows up automatically in the warehouse on the computer, through sync — you do not need to type it in by hand from the tablet's list.

POZOR: Warning: The "tablet can remotely start a re-optimization on this PC" permission only makes sense when the workshop computer is on and the program is running (even hidden in the tray) — otherwise there is no one to process the request from the tablet.

11. Material Traceability and Audit Documents (EN 1090)

The material log is a list of **ALL cut pieces**, with their grade, heat number, and certificate — mainly needed for certified production under EN 1090-2.

How the Heat Number Is Traced to a Cut Piece

The traceability chain runs top to bottom:

- 1 A **certificate** from the supplier (EN 10204, type 2.1/3.1/3.2) is saved with the material bundle.
- 2 The material **bundle** (delivery note + heat number) is received into stock — the bars from it inherit both the heat number and the certificate.
- 3 The **bar in stock** carries the heat number forward when it is issued.
- 4 The **bar in the cutting plan** (after optimization) carries the heat number with it.
- 5 The **cut piece** inherits the heat number from the bar it was cut from.
- 6 A **log entry** = one row for every physically cut piece.

How to Work with the Log

- 1 In the " **Material journal**" tab, click " **Load from optimization**" after every round of cutting — this pulls in the current data.
- 2 Search by position, assembly, or heat number, or use the filters (type, profile, grade, length, cutting status from the tablet).
- 3 A missing heat number shows up as a **red row** — this is not a program error, just missing data (for example, a bar added to stock manually, without a heat number). The export is not blocked because of this, it just warns you.
- 4 Double-click a row to get the material sheet for that one specific piece (PDF).

Plates — the Heat Number Must Be Assigned by Hand

Since plates are not optimized (they have no "bar" to automatically inherit a heat number from), you have to click " **Assign heat to plate**" for them directly in the log, and pick a heat number from stock. Until this is done, the plate is **left out** of the marking file (Dot Peen) — "no heat number, no production".

Exports for the Auditor

Output	Button	Contains
Log PDF + Excel	" Export (PDF/XLSX)"	The complete (filtered) table of records
Full audit package	" Audit ZIP"	The log (PDF+XLSX) + all attached certificates + an index of anything missing
File for plate marking	" Plate marking (CSV)"	Ready for machine marking (Dot Peen); plates without a heat number are left out

TIP: Practical tip: For an EXC3 auditor, one button is enough — " **Audit ZIP**" — it contains absolutely everything (the log and the certificates) in one file.

Order Overview

The " **Overview**" tab (available for larger orders split into stages) shows all assemblies at once with a color status: gray = assigned to a stage, green = made, orange = unassigned/partly assigned. At the top, you also see summary numbers for the whole order (number of parts, total weight, number of assemblies/profiles/material grades) and filter "chips" (All/Unassigned/Assigned/Made).

Double-click an assembly to see its details (which pieces, how many kg, the assignment status of each part). Right-clicking an assembly, just like in the main parts table, lets you set "Made elsewhere" or completely remove it from the order.

From here, you can also:

- " **Add part (import)**" — import another delivery as a new, separate stage (it does not merge into an existing one).
- " **Split stage**" — open a tool to split by profile, assembly, piece length, assembly weight, or by how many assemblies fit into a given number of bars of a given length.

- **" Merge stages"** — combine several stages into one.
- **" Validate"** — check that every part belongs to exactly one stage (no duplicates and no "orphans").
- **" Open folder"** — open this order's folder in Windows Explorer.

Multi-stage actions (Split/Merge/Add part) are only available in the Complete edition — in the Basic edition, every order is always a single stage.

When splitting a large order into stages (**" Split stage"**), you have several ways to choose which assemblies go into the new stage:

- **Text search** by assembly name.
- **A list of profiles** — check boxes to select only assemblies containing those profiles.
- **A range slider** for piece length or the weight of the whole assembly.
- **"Filter by delivery capacity"** — you enter the profile, and the number and length of bars you currently have on hand, and the program runs a trial optimization and suggests by itself which COMPLETE assemblies will fit into this delivery (handy when you are planning what to order for your next material delivery).

Once you have chosen the assemblies, just click " Select all visible" (or select them one by one by hand) and " Create stage".

Material Yield Statistics

The **" Statistics"** tab calculates clear KPI cards from the current optimization result — material consumption, yield (what percentage of the bar was actually used), an estimate of savings/profit, and environmental impact. The **"WITH JOINING / WITHOUT JOINING"** switch shows the difference between the two scenarios. The breakdown by individual profile is color-coded — red means a yield below 90%, orange below 97%, green 97% and above.

The methodology counts the largest offcut from a bar as **"credited back"** (in other words, as material returned to stock, not as waste) — this is why the numbers can differ slightly from a simple sum of "piece length / bar length".

TIP: Practical tip: Statistics are not saved anywhere — they are just live counters over the currently open result. If you close the order and open it again, they are recalculated from the saved plan.

12. Settings — Full Overview

Basic Settings

Setting	What it does	Recommended value
Application language	Translates the text in the program	Based on who is using the program (some text only changes after a restart)
Appearance (Dark/Light mode)	Switches the color scheme live	Whatever you prefer — has no effect on results
Data folder	Where ALL data is saved	Leave the default (Documents\CutForge), change only if you want a shared network drive for the team

Saw Parameters

Setting	What it does	Recommended value
Kerf width	How much material the cut itself (the blade) removes	Match your real saw, typically 1.5–3 mm
Left/right clamping	The dead zone at the end of the bar that cannot be used	Match the clamping jaw of the specific saw
Root gap	Shortens the segment when splitting a long piece, so that after welding it comes out at the exact original length	Leave it on "Auto" — the program calculates it from the profile's wall thickness
Respect material grades	Does not mix different grades (S235/S355...) on one bar	On (default)
Do joining	Whether shorter pieces are allowed to be welded onto one bar at all	On, as long as your company does welding

Saws (Cutting Machines)

A list of saws with the maximum size each one can handle. If you have two or more saws, a saw selector appears for each profile after optimization, and exports are split automatically. A profile that does not fit any of the saws is separated out and clearly marked.

Warehouse and Labels

Setting	What it does
Code format (QR/barcode/DataMatrix)	What type of code gets printed on the label
Label size	The print template (thermal 60×40, Brother TZe, A4 sheet...)
Generate labels only for usable offcuts	A label only for an offcut suitable for stock
Generate labels for every cut piece	Assembly labels for all parts
Data on the label (text, assembly, profile, length, grade)	What should be shown on the label
Warehouse — advanced levels (reordering, receiving bundles, certificates, movement history, customers/projects)	Switching on warehouse modules one by one, as needed (Complete edition)

PDF Exports

The "**PDF settings**" button opens a window with a live preview — format, orientation, font, cutting plan content, colours and company logo for all PDFs (details in chapter 9.1).

Sync and Updates (Complete Edition)

Setting	What it does
Server address, device pairing	Links the program to the server for the warehouse/tablet
Automatically sync warehouse	Periodic two-way sync in the background (every 8 s by default)
Allow the tablet to trigger re-optimization on this PC	A safety switch — off until you deliberately turn it on
Check for updates / Automatically on startup	A manual or silent check for a new version of the program

The "**Server projects...**" button (in the same section) opens a list of projects and stages you have ever sent to the server via "Export for mobile" — exactly what the tablet offers under "Load from server". Over time, this list builds up old and duplicate orders; here, you can refresh them (↻) or delete them in bulk (✖). Deleting here **does not delete anything locally** — it just disappears from the

tablet's list.

Profile Settings (Bar Lengths and Joining)

In the separate "**Profile settings**" tab:

- 1 Choose a standard (EN/BS/AISC/JIS/IS) — each has its own common bar lengths.
- 2 Set a **global length** for the whole standard, a **group length** (for example, the whole IPE group), or a **per-profile** length (just one specific profile) — the more specific setting takes priority.
- 3 Use "**Edit optimization / joining**" to set the joint type for a profile (Butt/Z-joint/Mitre), the weld gap, and the minimum segment length.
- 4 Add your own (non-standard) profiles with the "**Add custom profile**" button.

TIP: Practical tip: A change to bar length or joint type takes effect right at the next optimization — no need to restart the program.

Application Updates

In Settings, you see the current program version and the "**Check for updates**" button. If a newer version is available, the program asks whether you want to download and install it. The whole process (downloading, verifying, replacing the program, restarting) happens automatically, and your data (projects, warehouse, license) is not touched, because it lives in a separate data folder outside the program. The "**Automatically check on startup**" checkbox turns on a silent check every time you start the program (no nagging — the program only speaks up if a new version really is out).

Overview — What Is in Which Edition

Feature	Basic	Complete
Optimization, import, PDF cutting plans, labels		
Simple manual warehouse (no advanced features)		
Customers and suppliers (CRM)	—	
Extended warehouse (reordering, bundles, certificates, movement history, customers/orders)	—	
Order in stages (Master Project)	—	
Material traceability EN 10204 / material log	—	
Plate stock	—	
Sync with server/tablet (Cloud Sync)	—	
Mobile add-on (connection to the tablet at the saw)	purchasable separately, regardless of edition	purchasable separately, regardless of edition

Service Menu

Clicking the "CutForge" logo in the header 5 times quickly (within 2 seconds) opens a hidden **service menu**, protected by a password. It has several tabs — diagnostics (debug logging, log window), license (current edition, a temporary edition override for testing, clearing the license key), parser diagnostics, enabled optimization methods, warehouse and labels (a master switch), and small extras (for example, forcing Slovak). **This is not meant for everyday use** — leave it to a technician or support. Changes made here (for example, an edition override) only take effect after the program restarts.

13. Appearance, Languages, Undo/Redo, and Other Small Things

Appearance

Switching between light and dark mode is available in two places — in Settings and in the quick **"Appearance"** menu — both are always kept in sync. Switching is **instant, no restart needed**, and it can be undone.

Languages

The program supports 20 languages. Changing the language takes effect immediately for most of the text; some text needs a program restart.

Undo / Redo (Ctrl+Z / Ctrl+Y)

The program has **ONE shared Undo/Redo for the whole program** — it works across all tabs (warehouse, parts, customers, settings, and even appearance changes). It always undoes the last action you did, no matter which part of the program you did it in. You will find it in the "Edit" menu, in the top bar (/ icons), and directly in some tabs too (for example, the NC1 tab and the warehouse).

POZOR: Warning: When working with stages (splitting a large order), splitting/merging a stage has its own undo "layer", separate from regular part changes. If Ctrl+Z seems to "do nothing", it may be because the last structural stage change is being undone first, not the change you were expecting.

AI Assistant

In the bottom right corner of the main window, there is always a floating chat bubble with an AI assistant. It can answer questions about the program (for example, "how do I add a customer") and can start some common actions directly from the chat — for example, running an optimization, or helping load a bill of materials/NC1 files. For more sensitive commands (for example, deleting all parts), the assistant always asks for your explicit confirmation first, before it does anything.

Help

The **F1** key opens the built-in Help anywhere in the program. It has a tree of chapters (13 main ones plus dozens of sub-chapters) and full-text search that covers the content, not just the titles. Among other things, you will find a glossary of terms there (joining, angle nesting, paired cuts, root gap...) and table templates for common bill-of-materials formats.

14. When Something Does Not Work — Troubleshooting

Symptom	Likely cause	What to do
Orange "UNMAPPED" above the parts table	The part did not match any assembly in the bill of materials	Check the bill-of-materials format, or resolve it via the mismatches window (chapter 5.4)
A red value in the part's weight	The program read the weight column in Excel wrong	Check the column mapping (chapter 5.3), or the input Excel file directly
The program shows a dialog to split a piece during optimization	The part is longer than the longest available bar	This is normal, not an error — choose a joint type and continue (chapter 8.4)
Stock "did not change" after optimization	You are waiting to confirm the plan, or you are online with a tablet and nothing has been reported as cut yet	Confirm the yellow bar (chapter 8.6); in tablet mode, wait for a report from the saw, or use manual confirmation
Warehouse on the computer does not match the tablet	Sync has not run yet, or the device is offline	Click " Sync warehouse" manually, check the "Tablet online" badge

Symptom	Likely cause	What to do
After optimization I cannot see what to buy	The order no longer appears by itself — it depends on the plan you choose for each profile	Choose the plans for the profiles and click "Material order" above the results (chapter 8.6)
The import stopped with "BOM check — piece counts DO NOT MATCH"	The piece counts do not match the weights in the bill of materials itself	Best choose "Cancel import" and check the BOM or send it to support (chapter 5, Piece Count Check)
I do not see advanced warehouse/customer/supplier buttons	The feature is switched off in Settings, or you have the Basic edition	Check Settings -> Warehouse and the edition in Help -> License
"No license" or a warning is showing in the bottom bar	The program has not been able to connect to the internet to check the license for a while	Connect the computer to the internet; the program still works fully for up to 30-37 days without a connection
The program is still running after closing it with the X button	This is intentional — it hides into the tray because of the tablet/background tasks	Right-click the tray icon -> "Exit" if you really want to shut it down
A part shows "No NC data"	The part came from Excel/was added manually, and has no source NC1 file	This is normal — the preview is just an approximate rectangle, not an exact drawing
Optimization is taking unusually long	A large number of different lengths/profiles, or the exact mathematical solver is switched on	Wait — it runs in the background; for very large orders, consider switching off the exact solver in Settings
The program crashed or froze	A one-off error	The next time you start it, it offers to restore your unfinished project; report the issue via Help -> "Report an issue..."
I want to report a bug to the developer	—	Menu Help -> Report an issue... — a description, technical log, and screenshot are sent automatically
The program reports a count mismatch on import (NC1 vs. bill of materials)	Common when the customer's source documents are incomplete	Resolve it via the mismatches window (chapter 5.4) — nothing gets deleted, you just need to decide how to handle the difference
I do not see the preview button next to a part / the preview is just a rectangle	The part has no source NC1 file (it came from Excel or was added manually)	This is normal — an exact drawing needs NC1 data, otherwise the preview is only approximate
I do not see the Customers/Suppliers/Material journal tabs at all	You have the Basic edition	These features are part of the Complete edition (chapter 12)
A row in the material log is red (heat number missing)	The bar was added to stock without a heat number (for example, by hand)	Fill in the heat number when receiving material next time; the export is not blocked, it just warns you
A plate did not make it into the marking file (Dot Peen)	The plate has not been assigned a heat number yet	In the material log, click "Assign heat to plate"
An offcut from the tablet did not show up in the warehouse on the computer	Sync has not run yet, or the tablet is currently offline	Check the "Tablet online" badge, try manual "Sync warehouse"
I want to cancel a "DO NOT TAKE" reservation on a warehouse item	It was set manually by right-clicking	Right-click the same item -> "Cancel reservation"
The program asks for the license key on startup, even though I already entered it once	The license was cleared in the service menu (for example, during testing), or migration failed after a computer change	Enter the key again; if the problem continues, contact support with the HWID shown in the dialog

TIP: Practical tip: Before you fix anything by hand, try **Ctrl+Z** — most actions in the program can be undone.

TIP: Practical tip: For any unclear behavior, check the **license badge** and the **tablet badge** in the bottom bar first — a large share of "why didn't this change" questions come down to online/offline mode.

15. Glossary of Terms

Term	Explanation
Kerf / cut width	How much material the saw cut itself "eats"; subtracted for every cut except the last piece on the bar
Offcut	A piece of bar left over after cutting that is long enough to reuse — it goes into stock automatically
Waste	A piece of bar too short to be used again — unlike an offcut, it is not recorded into stock
Heat number	The steel mill's production batch number — key for material traceability (EN 1090)
Certificate (mill certificate)	A document certifying material quality under EN 10204 (type 2.1/3.1/3.2), linked to the delivered material bundle
Assembly	An assembled unit made of several parts that belong together (for example, one welded structure)
Stage (also "Part")	A subsection of a large order — used when it is made in parts; each stage has its own cutting plan
Master project / order	The complete "file" for one order on disk, including all its stages
Merge (multi-project)	Combining several separate orders (even from different customers) into one optimization, to save material across them — do not confuse this with "Merge stages"
Merge stages	Combining several stages inside the same order into one — a different feature from "Merge" (multi-project), even though it has the same icon in the program
NC1 / DSTV	A file format from a CNC saw (Ficep) that contains the exact geometry of a piece — profile, length, angles, holes
EXC class	The execution class under EN 1090 (EXC1 to EXC4) — a higher class means stricter traceability requirements
Joining	Welding two shorter pieces of material into one longer part
Force-split	The forced splitting of a piece that is longer than the longest available bar — this happens regardless of whether your company has joining switched on
Joint type — Butt	The simplest straight weld, with a small root gap
Joint type — Z-joint	A finger/stepped joint with overlap — a stronger joint, used for example on heavy profiles
Joint type — Mitre	An angled weld (typically 45°)
Paired cuts	Cutting two bars at once with a single pass of the saw — saves time, not necessarily material
Angle nesting	Joining two neighboring pieces with a matching angled cut into one "chain" on the bar, to save one cut — only works for symmetric profiles
Alt bar (alternative plan)	A second plan, calculated in parallel, using a shorter bar (6 m by default), for when long bars are not available
Model B (plan confirmation)	The principle that stock changes based on what was ACTUALLY cut (from the tablet), not automatically based on the whole plan

Term	Explanation
Re-Opt	Recalculating one profile from scratch
Optimize current state (recut)	Recalculating the rest of the plan, taking into account what has already actually been cut
Smart Fill (pre-production)	Automatically filling free space on a bar with pieces from another stage of the same order
Reservation (DO NOT TAKE)	Manually blocking a specific warehouse item so it is not used, even though it would otherwise fit
Warehouse L0-L5	Progressive levels of warehouse complexity — from a simple list (L0) to full records with certificates and orders (L5)
Basic / Complete edition	The two license levels of the program — Complete additionally includes CRM, the advanced warehouse, stages, traceability, and sync
Mobile add-on	A separate add-on that connects to a tablet at the saw, independent of the edition
Bundle	One delivery of material from a supplier — a delivery note, heat number, and possibly a certificate are linked to it
Usable offcut vs. waste	The threshold between them is adjustable (around 300 mm by default) — above it, a piece goes back into stock as an offcut; below it, it counts as waste
Offcut mark	The identifier of a usable offcut in the form PROFILE-LENGTH-#number (for example HEA100-8336-#14) — written on the piece with a marker and also its ID in stock
Part drawing (V1, V2...)	The drawing of a part from its NC file at the end of the cutting plan; the table refers to it with "-> V1"
Weight sanity check	An automatic check of whether the parsed weight of a part from Excel/NC1 matches the calculated value — if the difference is large, the value is shown in red as suspicious
Location (warehouse location)	A named place in the workshop (for example, Rack A) with an adjustable priority — the program takes material from the highest-priority location first
UNMAPPED	The label for a part that could not be matched to any assembly in the bill of materials during import
Made elsewhere	A flag on an assembly/part that excludes it from optimization without removing it from the records — reversible
Force-split (forced splitting)	Another way of looking at the same thing as "joining a long part" — it happens whenever this is the only way to physically fit the part onto an available bar
Alt/6000	Shorthand for the alternative plan using a shorter (6-meter by default) bar, calculated alongside the main plan
Model B	The internal name for the principle from chapter 8.6 — stock is updated based on material actually cut, not automatically based on the whole plan
CP-SAT	One of the program's calculation methods — a mathematically exact solver (Google OR-Tools), used for larger/more complex jobs
Greedy (simple method)	The fastest of the program's built-in calculation methods — at each step, it picks the piece that fits best; it also serves as a universal fallback if the others fail
EN 1090	The European standard for the execution of steel structures, which, among other things, requires material traceability (heat number, certificate) for stricter execution classes (EXC2 and above)
HWID	A unique identifier for the specific computer the license is tied to — shown in the activation dialog
Grace period	The safe period (about 37 days total) during which the program works fully even without a successful license check online