JUMBO BLOCK ENGINEERING SUITE

TENDER

User Manual · Version 3.0.0

Table of Contents

1. Overview

JUMBO BLOCK Tender 3.0.0 is a local tool in the JUMBO BLOCK Engineering Suite for opening, reviewing, displaying, editing, pricing and saving bills of quantities based on GAEB DA XML. Data phases X80, X81, X82, X83 and X84 are supported.

The application runs in the browser. Imported and edited bills of quantities remain in browser memory. Tender uses no server communication, cookies, LocalStorage or SessionStorage for project data.

Version 3.0.0 uses X80 as the editable BoQ working basis while X81 through X84 are read and processed according to the data-phase rules implemented in Tender.

2. Supported GAEB data phases

Tender displays the detected GAEB version and data phase of the loaded file. The application defines the supported phases as follows:

- X80 – Universal BoQ data: neutral GAEB data phase for bills of quantities outside a defined process phase.
- X81 – Specification: BoQ from planning; basis for cost estimate and tendering.
- X82 – Cost estimate: internal costing using prices of the planner or contracting authority.
- X83 – Invitation to tender: BoQ for the bidder; internal X82 cost estimates are not carried over.
- X84 – Bid submission: return of the bid with bidder prices and additions.
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3. Starting Tender and the user interface

When opened, Tender waits for a bill of quantities. After a file is loaded, the header shows project, BoQ, GAEB version and data phase, item count and currency.

The main workspace consists of the BoQ structure on the left and the item table on the right. The table contains item number, description/text, quantity, unit, unit price and total price. The search field filters by item, item number or text. Page size can be set to 50, 100 or 250 items.

“All items” removes a structure filter. “Reset view” resets the current view without deleting the loaded BoQ.

4. Opening a GAEB file

Use “Open XML data according to GAEB standard” or drag and drop a file with extension .x80, .x81, .x82, .x83, .x84 or .xml. The file is read locally only.

Tender first checks the file extension and whether the content is syntactically valid XML. It then analyses metadata, BoQ structure and items. If processing fails, the error is shown in the status area and no partially loaded project is retained.

5. Creating a new X80 bill of quantities

“New BoQ” creates a new X80 working file. The dialog asks for project name, BoQ name and currency, plus data for the first section and first item.

For the first item, quantity, unit and short text are required; long text is optional. Defaults are “General”, quantity 1.000, unit “pc”, short text “New item” and currency EUR.

The new X80 is immediately available in the workspace and can be structurally edited and processed toward X80 through X84.

6. Editing the X80 BoQ structure

Structural editing is limited to X80. In other data phases, the structure tree and item table are used for navigation and display.

“Add BoQ section” creates a section only within the GAEB hierarchy described by BoQBkdn. Tender does not silently invent intermediate levels. If another BoQLevel is required, the hierarchy can be extended explicitly by defining the new level name and key length.

Because a new BoQLevel changes the BoQ-wide item-number hierarchy, existing item lists in other leaf sections are brought to the same depth. The name entered in the dialog is used for the required subsections.

Existing BoQ sections can be edited, moved up or down within their permitted level, and deleted. After structural changes, Tender rebuilds item-number parts according to the resulting order.

7. Adding and editing items

“Add item” inserts a new item into a permitted leaf BoQ section. An item contains quantity, unit, short text and optional long text.

“✎ Edit item” opens the existing item. In addition to its specification data, the item can be assigned to another permitted leaf section. Assignment remains constrained by the BoQBkdn hierarchy.

Use ↑ and ↓ to reorder items within the same BoQ section. “🗑 Delete item” removes an item after confirmation; subsequent item numbers are rebuilt.

8. Summary descriptions and subdescriptions

Tender 3.0.0 supports GAEB-compliant item breakdown using SumDescr and SubDescr. Subdescriptions remain part of the same GAEB item and are numbered using SubDNo.

“↳ Break down” converts a normal item into a summary description with subdescriptions, or opens the subdescription editor for an already structured item. On first conversion, the complete existing item content is retained as subdescription 1.

In the subdescription editor, subdescriptions can be added, deleted and reordered using ↑/↓. Each subdescription can contain quantity, unit, short text and long text. Tender limits a summary description to 99 subdescriptions.

The “⇢” button assigns an existing item as a subdescription of the immediately preceding item in the same BoQ section. If there is no preceding item, use “↳ Break down” when the item itself should receive subitems.

9. Item numbers and hierarchy

Item numbers are built from the GAEB structure and the order of sections and items. After adding, deleting, moving or reassigning X80 structure elements, Tender renumbers the affected RNoPart structures.

BoQ hierarchy and item breakdown are separate concepts: additional BoQ levels use BoQLevel/BoQCtgy, while summary and subdescriptions inside an item use SumDescr/SubDescr. Tender therefore does not model subdescriptions as artificial BoQ sections.

10. Search, filters and navigation

The search field filters displayed items by item, item number or text. Selecting a section in the structure tree limits the view to that section. “All items” returns to the complete BoQ.

Pagination applies to the filtered result set. Page size can be set to 50, 100 or 250 items.

11. Currency and prices

Currency is displayed in the header and can be edited in the loaded working copy. Price fields are handled according to the data phase.

In X81 and X83, unit prices can be entered directly in Tender. Item total price is calculated as quantity × unit price and rounded to two decimal places. BoQ and section totals are calculated from available prices.

Prices entered in X81 are intended in particular for creating an X82 cost estimate. They are not retained when saving as X81 or X83. Prices entered in X83 are intended in particular for the X84 bid submission.

Missing unit prices are detected before price-dependent exports. After explicit confirmation, Tender can set empty prices to 0.00 in the current currency.

12. Saving as X80

X80 can be saved only when an X80 has been loaded or newly created. Before saving, Tender performs an internal X80 structure check, serialises the working copy, parses it again as XML and then performs a round-trip structure check.

The X80 export in version 3.0.0 is limited to GAEB DA XML 3.3 / 2021-05. The internal check does not replace an external GAEB XML Checker or complete external XSD validation.

13. Saving as X81, X82 and X83

Tender accepts X80, X81, X82 and X83 as source phases for X81 through X83. X84 is not used as a source phase for this backward conversion.

When saving X82, prices available in Tender are written as cost-estimate values. If X82 is created directly from an X80 without prices, Tender warns the user and can set all items to 0.00 after confirmation.

When saving X83 from X82, internal cost estimates are not carried over. Prices entered locally in X81 or X83 are likewise not written when saving X81 or X83. Tender presents appropriate warnings or confirmation dialogs before export.

Generated files use a timestamped file name and are saved locally through the browser.

14. X84 bid submission

An X84 can be generated from X80 or X83. Before export, every item must have a price; missing prices can be completed with 0.00 after confirmation.

Tender requires bidder data for X84. Mandatory fields are company/name, street and number, postal code and city. Country, contact and email are optional. These data are written only to the locally generated X84.

When generating X84 directly from X80, Tender warns that X80 contains no bid prices. After confirmation, all items can initially be set to 0.00. Tender builds X84 according to its supported GAEB DA XML 3.3 X84 schema and recommends additional validation with the GAEB XML Checker.

15. Print / PDF

“Print / PDF” creates the report locally in the browser as a DIN A4 PDF. The dialog lets the user include full long texts and a table of contents.

The print output contains project and BoQ information, BoQ hierarchy, items and, where available for the loaded phase or current data, prices and totals. Bidder information can be included for X84.

The output uses compact technical typography of approximately 8.5–9 pt with tight line spacing. Tender explicitly notes that GAEB documentation governs BoQ structure and data but does not prescribe a mandatory print font size or line spacing for this browser output. The long text is authoritative for the specification.

16. Language

The user interface supports German and English. Language is controlled through the global JUMBO BLOCK Engineering Suite menu. Labels, dialogs, status messages and the Tender documentation follow the selected language.

17. Data sovereignty and privacy

Tender processes project data locally in the browser. It uses no server communication, cookies, LocalStorage or SessionStorage for project data. A loaded BoQ therefore remains in browser memory while it is being worked on.

Saving X80–X84 or creating a PDF is a local browser action. Users remain responsible for storage, versioning, backup and distribution of generated files.

18. Limits, validation and best practices

Tender 3.0.0 supports X80 through X84 within the implemented GAEB DA XML 3.3 / 2021-05 scope. Not every possible GAEB feature or optional schema element is exposed in the user interface.

Internal XML and structure checks are intended to detect common problems early. For formal data exchange, generated GAEB files should additionally be checked with the appropriate GAEB XML Checker or against the applicable XSD.

Keep an unchanged source file before making extensive X80 structural changes. Changes to BoQLevel definitions in particular affect the BoQ-wide item-number hierarchy.

Internal X82 costs and X83/X84 bid prices are different business data. Do not bypass the warnings shown when changing phases.

19. Quick reference: symbols and buttons

Symbol / button	Meaning
□ Open XML data according to GAEB standard	Open X80–X84 or XML locally.
+ New BoQ	Create a new X80 working file.
↺ Reset view	Reset filters and current view.
□ Save X80	Save X80 locally after structure and round-trip checks.
□ Save X81	Save the BoQ as X81.
□ Save X82	Save the cost estimate as X82.
□ Save X83	Save the invitation to tender without internal/temporary prices.
⬇ Save X84	Generate a bid submission from X80 or X83.
🖶 Print / PDF	Create a local DIN A4 report.
+ Add BoQ section	Add an X80 structure section.
+ Add item	Add an item to X80.
↑ / ↓	Reorder section, item or subdescription.
↳ Break down	Break down/edit an item as a summary description with subdescriptions.
⇢	Assign item as subdescription of the preceding item.
✎ Edit item	Edit specification data and permitted assignment.
🗑	Delete section, item or subdescription.
☰ All items	Remove the structure filter.
ⓘ About Tender	Show version, function and data-sovereignty information.