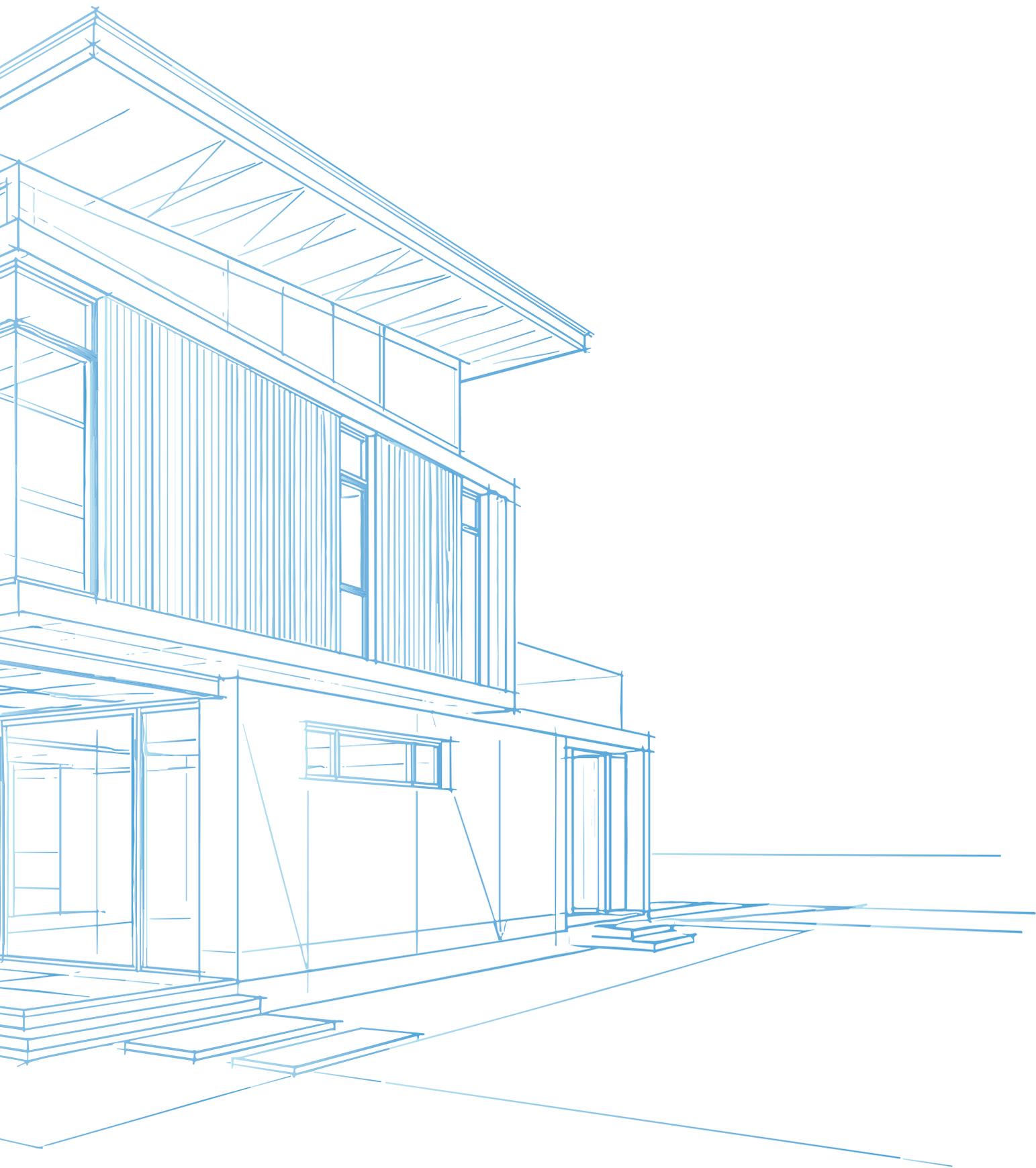




**NATIONAL BUILDING
PRODUCTS COALITION**

BUILDING PRODUCT INFORMATION

**TRACEABILITY AND
DIGITALISATION
GUIDE**



FOREWORD

The Australian construction industry is the cornerstone of our economy and communities. Our industry delivers the schools, hospitals, shops and homes that our community needs, employs approximately 1.4 million people¹ and generates over \$634 billion² in income. Every dollar invested in construction contributes approximately three dollars to the broader economy³.

Yet the sector continues to face systemic challenges in product assurance, compliance, and productivity. The 2018 Building Confidence Report called for stronger governance of building product information to ensure trust and safety. In response to the recommendation in the Report that covered building product safety, the Australian Building Codes Board produced the [National Building Product Assurance Framework](#) (the Framework) in 2021.

A key element of the Framework (Element 3) was for building product traceability and identification that allows all participants across the building supply chain to efficiently share reliable and trusted information in a consistent way. To advance this recommendation the National Building Products Coalition (NBPC) has developed this Guide to help advance the digital traceability of building products across the Australian construction industry.

Digital traceability is already possible: the technologies and open international and Australian data standards are in place. What the construction industry requires is leadership for coordinated adoption, shared understanding of what information is to be exchanged, and how to deliver it.

This Guide sets out to provide this leadership. It is designed to aggregate existing information to develop a shared position to help manufacturers, suppliers, designers, builders, and regulators implement traceability practices that build accountability, enable innovation, and support environmental and social outcomes.

Shared data frameworks that are the foundation for improved transparency, safety, and efficiency across the construction supply chain are detailed in this Guide.

1 ABS Labour Force, Australia, Detailed (Table EQ06) (November 2025)

2 ABS Australian Industry, 2023-24

3 Master Builders Australia

ABOUT THE NATIONAL BUILDING PRODUCTS COALITION

The [National Building Products Coalition](#) (NBPC) is an industry alliance from across the Australian construction supply chain working to improve confidence in the building products used across Australia. Members cover the entire construction supply chain and include industry associations, certification bodies, sustainability councils, and technology providers.

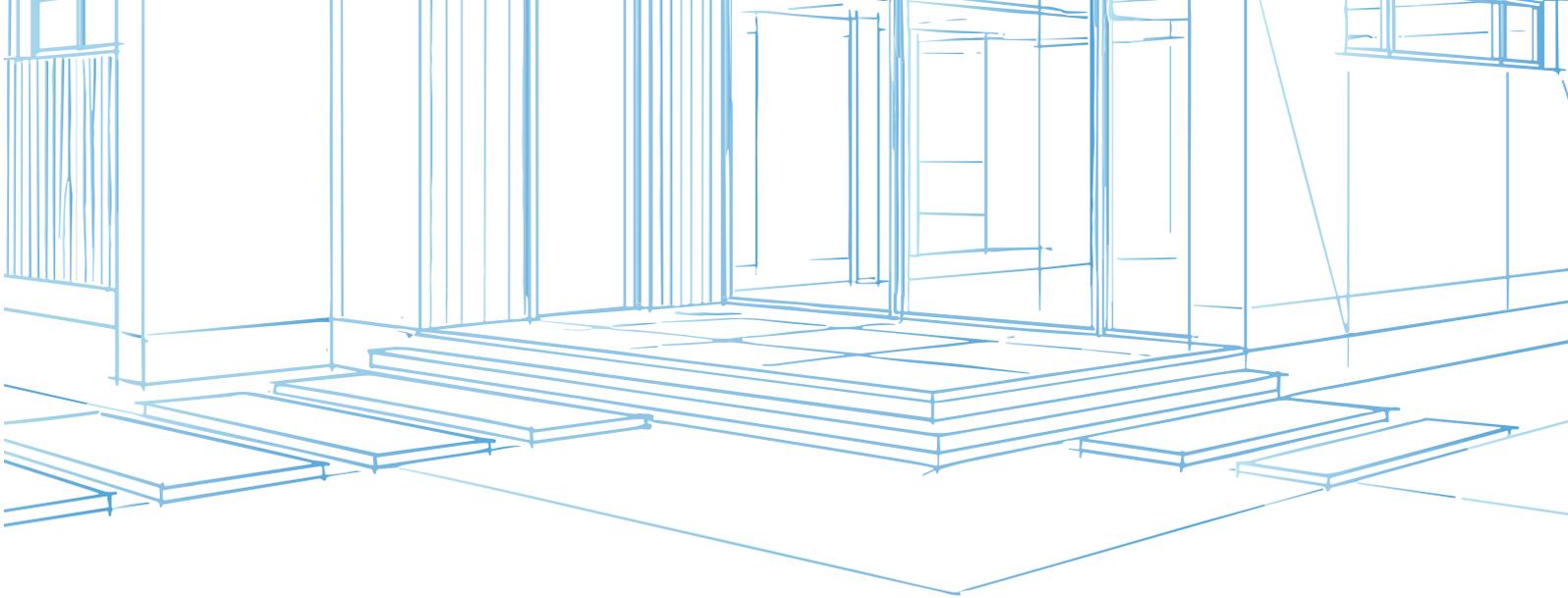
The NBPC has come together to improve confidence in product information and streamline product compliance processes. It works collaboratively to advance the recommendations of the [National Building Product Assurance Framework](#), which highlighted the need for clearer responsibilities, improved traceability and better access to verified data.

Through this work, the NBPC aims to ensure all building products used in Australia can be trusted and are fit to be used for their intended purpose. By building partnerships across sectors, the NBPC is helping to deliver a safer, more transparent and more productive built environment.

To learn more about the work of the NBPC and how you can contribute, visit our website at nbpccoalition.net.

The NBPC would like to particularly thank the contribution of the following individuals in the development of this Guide.

- Rodger Hills, Building Products Industry Council
- Katherine Featherstone, Green Building Council of Australia
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- Neil Savery - International Code Council Evaluation Service
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PURPOSE OF THIS GUIDE

This Guide provides practical information for anyone involved in the production, supply, design, procurement, approval or installation of building products in Australia, including:

- building product manufacturers
- suppliers and importers
- clients and developers
- designers, consultants and specifiers (including costing, surveying, financing or procuring)
- installers (builders and trade contractors)
- project managers and site supervisors
- relevant authorities (building surveyors, building certifiers)
- facility managers.

The Guide explains how digital traceability can be implemented in real-world settings and how consistent data systems can benefit every participant in the supply chain. It aims to support organisations as they transition from paper-based and/or fragmented data processes toward integrated digital product information systems. It outlines what data needs to be collected, how it can be verified, and how it can be shared securely and efficiently across the entire supply chain.

The structure of the Guide is aimed at assisting building practitioners in understanding both the technical and operational aspects of traceability. It connects to international developments in traceability and digitalisation such as the [Universal Data Protocol](#) and the [UN Transparency Protocol](#), as well as other best practice initiatives, ensuring that Australia remains aligned with global practice.

SCOPE OF APPLICATION

This Guide applies to all products and materials that are part of a building's structure that require regulatory approvals. This includes single products such as timber or steel, manufactured components like windows and insulation, and complex systems such as prefabricated assemblies. It also incorporates building, plumbing, drainage, electrical and other like products used in the construction of buildings, even though not all are covered by the National Construction Code (NCC).

Traceability principles are applicable across all sectors of the industry, from residential housing to large-scale infrastructure. They are also relevant to imported products, which must demonstrate conformity with the performance requirements and referenced standards of the NCC.

In time, digital traceability should also extend to temporary works, demolition materials and waste recovery, helping the industry advance toward circular economy goals.

WHAT IS DIGITAL TRACEABILITY?

Digital traceability allows each product used in the construction of buildings to be uniquely identified and securely linked to a verified set of data. This means that manufacturers, builders, and regulators can confirm what a product is, where it came from and whether it meets the standards required for safe use or other essential criteria.

Each step in the supply chain generates data that becomes part of the product's digital record. This includes manufacturing information, test results, certification details, delivery and installation data, and maintenance records. When managed through an interoperable digital system, this data can be securely shared and verified by multiple parties.

Digital traceability not only reduces the risk of non-compliant or counterfeit products but also improves operational efficiency. It allows teams to work from the same source of truth, supporting faster decision-making and reducing rework.

Figure 1 illustrates how building product information can flow from the manufacturer to end-of-life or reuse.

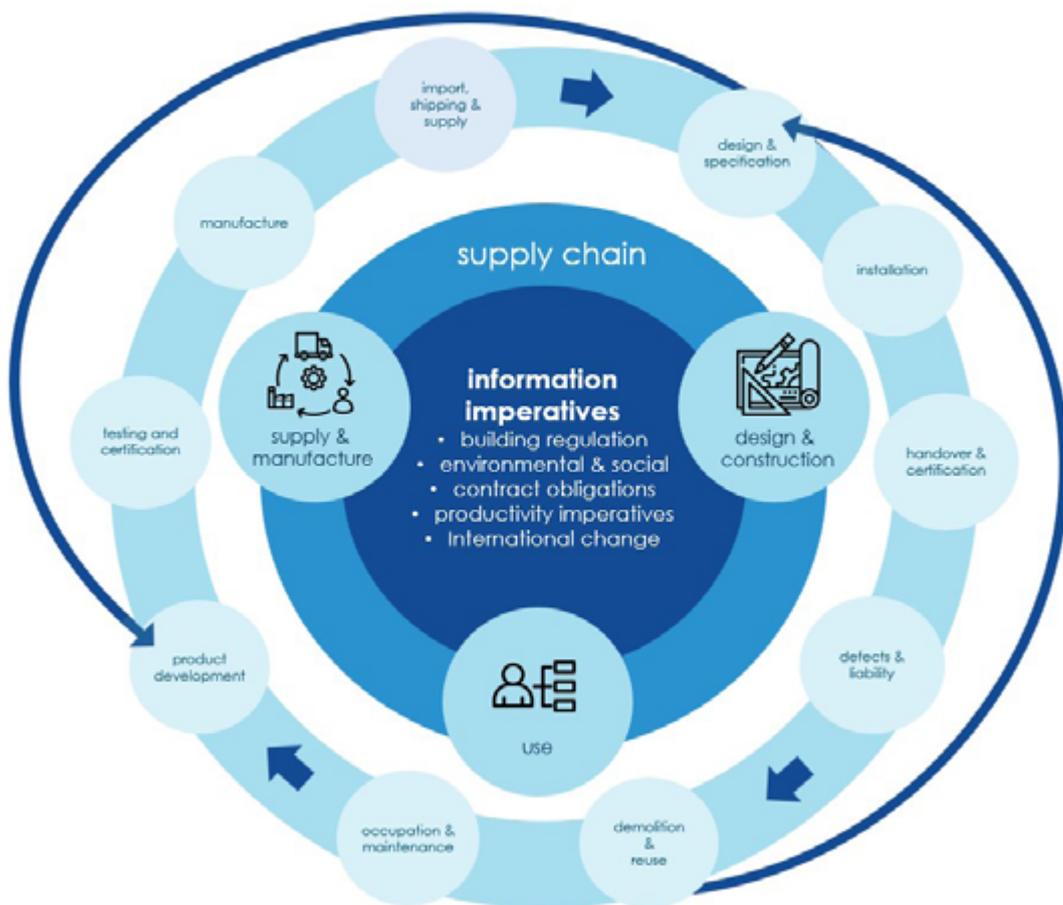


Figure 1: Building product information and how it flows through the construction supply chain

MANAGING RISK

Digital traceability directly addresses some of the industry's most persistent risks, including product substitution and non-conformance. By providing ready access to clear and verifiable data, it enables faster identification of potential issues and helps teams take corrective action before problems occur. It also enables the ability to trace back to the source of a problem.

For manufacturers and suppliers, traceability reduces the risk of product recalls and supports faster resolution of warranty claims. For builders and designers, it facilitates appropriate specification and ensures that the products specified are those that are installed. For regulators, it provides a transparent record of compliance.

Traceability also helps protect brand reputation by demonstrating accountability and responsible sourcing. In an increasingly complex regulatory environment, it gives businesses the confidence that their products meet both safety and sustainability expectations.

CONTEXT AND DRIVERS FOR CHANGE

Australia's regulatory and market environment is shifting rapidly toward greater transparency and accountability. Governments and clients expect clear evidence that materials and products satisfy required standards, are sourced responsibly and can be verified through the supply chain.

The [NCC evidence of suitability](#) requirements and the product chain of responsibility legislation in Queensland⁴ and New South Wales⁵ require that suppliers provide complete and accurate information. At the same time, investors and clients are demanding better data on carbon emissions, ethical sourcing and product provenance.

Digital traceability is a practical solution to these requirements. It provides a consistent framework for managing data across all participants, supporting compliance while improving productivity and quality.

4 [Non-conforming building products | Queensland Building and Construction Commission](#)

5 [Non-conforming building products | NSW Government](#)

ENVIRONMENTAL AND SOCIAL IMPERATIVES

Digital traceability supports Australia's transition to a low-carbon, circular, and socially responsible construction industry. It allows companies to measure and report on embodied carbon, track recycled content, and demonstrate ethical supply chains.

With climate-related disclosure requirements expanding under Climate Reporting legislation such as [IFRS S2](#), and modern slavery reporting continuing to evolve, businesses must be able to verify the source and impact of their materials. Digital traceability provides the evidence base needed for accurate reporting and responsible procurement.

Beyond compliance, this approach also enables new opportunities. By understanding the composition and lifecycle of materials, organisations can identify reuse or recycling options and reduce waste. This contributes to both sustainability and cost efficiency.

PRODUCTIVITY AND INTERNATIONAL ALIGNMENT

Digital traceability has become a key enabler of productivity across global industries. By linking data to physical products, organisations can automate manual processes, improve logistics and reduce time spent verifying product information. In construction, this means faster procurement, fewer on-site delays and more reliable quality assurance. All of which adds to consumer confidence.

Australia's construction sector faces ongoing challenges with efficiency compared to other industries. Many of these challenges stem from fragmented data systems and manual reporting processes. By introducing traceability tools that use standardised data formats and protocols, companies can connect digital workflows across supply chains and reduce duplication of effort.

Internationally, the move toward traceable, transparent supply chains is accelerating. The United Nations Transparency Protocol (UNTP) defines how supply chain information can be exchanged in a consistent and verifiable way. The Universal Data Protocol (UDP) is intended to provide a common structure for construction data exchange, while the European Union's Digital Product Passport and Ecodesign for Sustainable Products Regulation are setting new benchmarks for global trade and product accountability.

Aligning Australia's systems with these global standards will make it easier for local companies to compete in export markets and meet the evolving expectations of global clients and regulators. It will also help ensure that imported products are subjected to common data points adding rigour to determining their compliance.

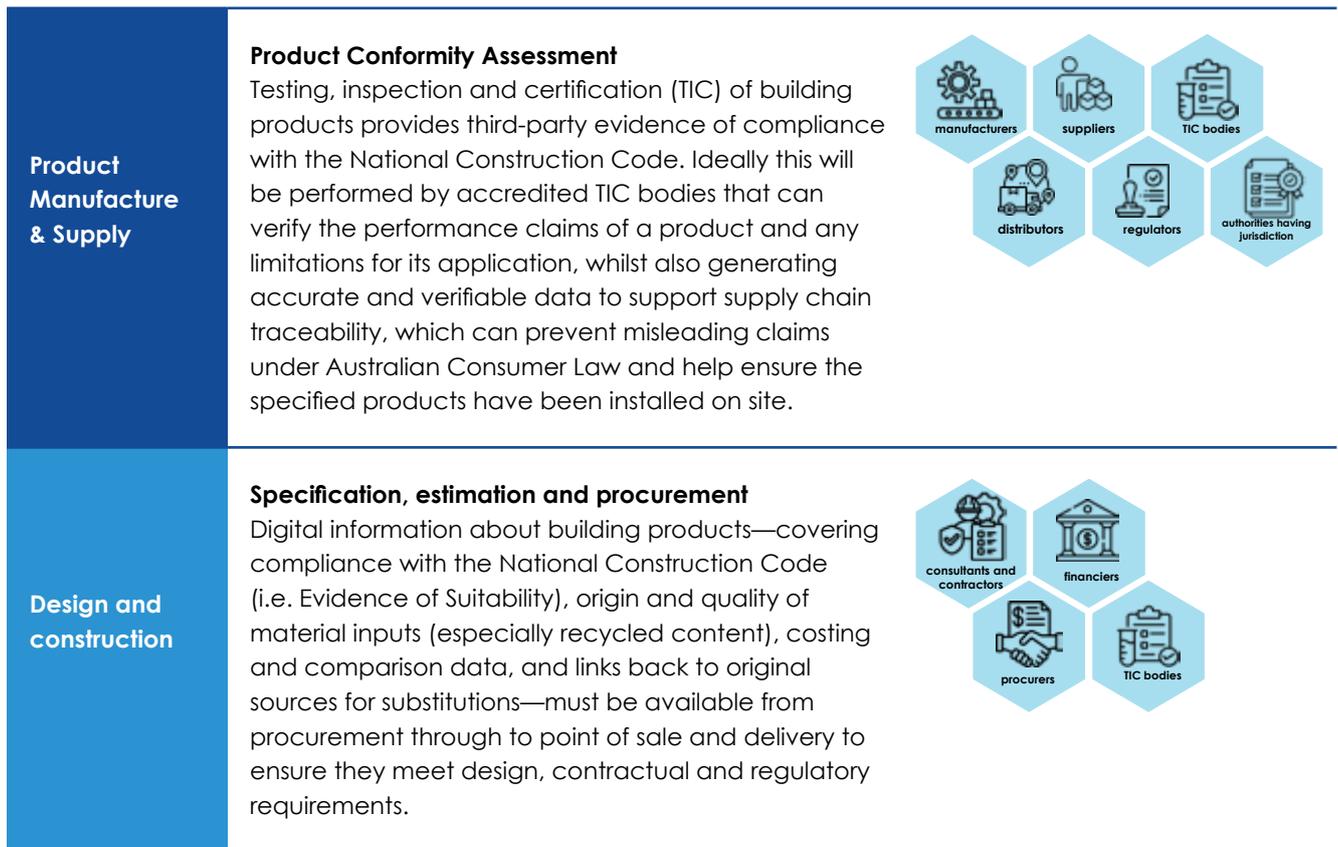
INFORMATION NEEDS ACROSS THE SUPPLY CHAIN

Digital traceability is most effective when each participant in the supply chain captures and shares accurate data. Manufacturers, suppliers, designers, contractors and asset owners all play a role in maintaining data accessibility and integrity.

Each stage of the building lifecycle requires specific types of information. During manufacture and supply, the focus is on production data, testing inspection and certification, and delivery details. In the design phase, product performance information helps ensure that specified materials meet project and regulatory requirements. During construction, traceability provides confidence that approved products are being installed correctly and safely.

At handover and during maintenance, accurate product data supports certification, warranty tracking, and future replacement decisions. At the end of a product's life, traceability enables reuse and recycling by providing information on material composition and previous use. The success of digital traceability depends on consistent data collection and communication between all parties. By adopting common standards and data structures, the industry can achieve end-to-end visibility and accountability.

The information needs for different actors in the supply chain are summarised in Figure 2.



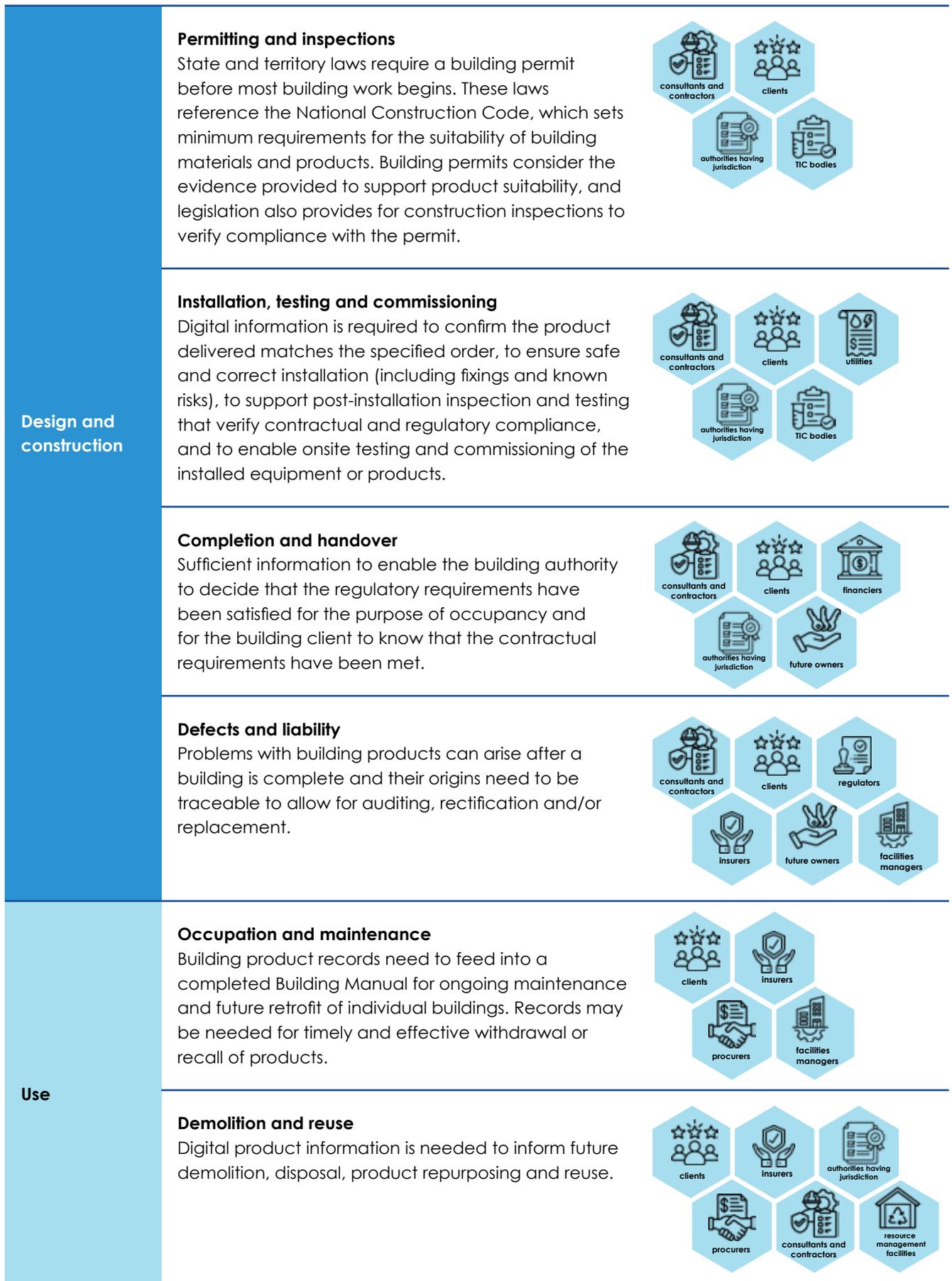


Figure 2: Information requirements across the supply chain

TRACEABILITY PROTOCOLS

For traceability systems to function effectively, common rules for identifying, capturing, and sharing data are essential. There are six guiding principles for implementing traceability protocols:

1. **Outcome focused** – Data should be meaningful, complete, and directly relevant to decisions made along the supply chain.
2. **Verifiable** – Information must be backed by credible evidence and capable of being independently verified.
3. **Transparent** – Data should be visible to those who need it, providing clarity and accountability.
4. **Secure** – Systems must protect sensitive commercial information while maintaining confidence in data integrity.
5. **Interoperable** – Traceability solutions should integrate easily with existing systems, avoiding data silos.
6. **Continuously improving** – Systems should evolve over time as technology and industry needs develop.

Following these principles enables companies to design traceability systems that deliver value for all users and support the industry's long-term transition to digital assurance.

DATA REQUIREMENTS

Digital traceability relies on accurate and complete data. Each product must be linked to two main categories of information: product attributes and transaction data.

Product attribute data covers the physical and performance characteristics of the product, including manufacturing details, testing inspection and certification evidence, and environmental or social impact data. This information includes test certificates, performance ratings, Environmental Product Declarations, and installation instructions.

Transaction data records how the product moves through the supply chain. It includes supplier identifiers, batch numbers, delivery records, and links to projects or installation sites. Together, these data types allow stakeholders to track products from production to installation and eventual reuse.

Both types of information must be captured in a structured, machine-readable format to ensure that it can be readily shared across systems and platforms.

How the data requirements come together in the construction supply chain is illustrated in Figure 3.

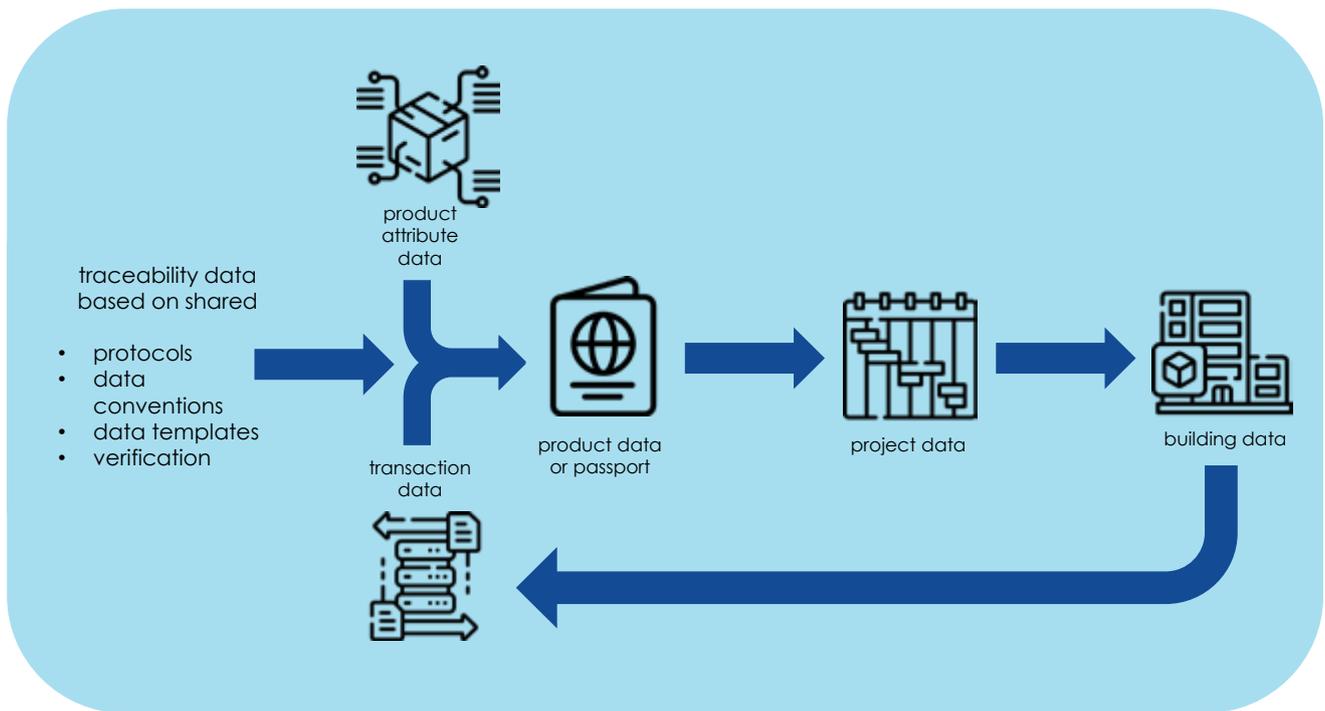


Figure 3: Data requirements for end-to-end traceability

COMMON DATA CONVENTIONS

Data conventions are the foundation of a reliable traceability system. They define how information is formatted, labelled and linked across different platforms. Shared conventions ensure consistency and ease of exchange between partners.

Several international standards already provide strong foundations for traceability in the construction sector. These include GS1 Global Traceability Standards, which offer a range of globally unique identifiers certified to Australian and ISO standards to link data to products and locations. These include Global Trade Item Number (GTIN) enables identification of individual products, the Global Location Number (GLN) identifies facilities or sites, and the Serial Shipping Container Code (SSCC) identifies logistics units such as pallets or containers.

Classification frameworks such as [Uniclass](#), [Omniclass](#) and [ETIM](#) provide consistent terminology for product types, while the Universal Data Protocol being developed by Standards Australia and the International Code Council helps align construction data across digital systems. Together, these tools support compatibility with Building Information Modelling (BIM) systems and other digital platforms used in design and construction.

COMMON DATA TEMPLATES

Using the data requirements and common data conventions, shared data templates define how information about a product is structured and recorded in a common way. They provide a consistent format that makes it easier to share and interpret data across multiple platforms and stakeholders.

For building product traceability three types of information are needed to be covered by a data template:

- 1. Product description and identity** – Key details such as product ID, brand, model, dimensions, and materials.
- 2. Conformance and performance** – Test results, compliance with standards, and certification details.
- 3. Transaction and logistics** – Tracks shipment, handling, and location data throughout the product's lifecycle.

Data templates help manufacturers, designers and builders communicate using a common digital language. When implemented consistently, they prevent information loss and duplication and ensure that data follows the product through every stage of the supply chain.

The NBPC has developed a [Common Data Template](#) for use across the Australian construction industry.

VERIFICATION AND THE UN TRANSPARENCY PROTOCOL

Verification is a critical element of traceability. It ensures the data recorded against a product is accurate and trustworthy. Verification can take different forms, including third-party certification, automated data validation, or checks performed by recognised authorities.

The United Nations Transparency Protocol (UNTP) provides a global framework for how verified information is shared securely across supply chains. It uses a decentralised model that allows organisations to exchange data with confidence while retaining control over what is shared and with whom.

Australia is already applying these concepts in other sectors, such as agriculture, through the Australian Agriculture Traceability Protocol. Lessons from these initiatives can inform how the construction industry develops its own digital verification systems, ensuring that trust and data quality remain central to the process.

CALL TO ACTION

Digital traceability represents a major step forward in the evolution of Australia's construction industry. It is a shared responsibility and provides the foundation for safer, more sustainable and more productive building practices by ensuring that every product used can be identified, verified and trusted.

Implementing digital traceability requires a structured approach that reflects the maturity of each organisation's systems and processes. GS1's Traceway model provides a framework for this process:

- 1. Project setting** – Define the goals, expected benefits, and scope of traceability within your organisation or project.
- 2. Diagnosis** – Map product flows and existing data systems, identify critical traceability points and assess any gaps.
- 3. Design** – Establish identifiers, data templates and technical requirements for sharing information across partners. To assist with the organisation of traceability of data, the National Building Products Coalition recommends the use of the Common Data Template at Table 1.
- 4. Deployment** – Implement systems, train users and run pilot projects to test functionality.
- 5. Review and continuously improve** – Evaluate performance, gather feedback and refine systems to improve coverage and accuracy.

This phased approach helps organisations adopt digital traceability in manageable stages and ensures that the outcomes are scalable across multiple projects.

Table 1: Common Data Template

Data elements	Classification / Description	Required / Optional	
Product Description	globally unique identification number	based on AS ISO/IEC 15459.6 accredited product identification standards such as a Global Trade Item Number (GTIN)	required
	manufacturer's identifier	SKU or manufacturer's number	optional
	product name	public name of the product	required
	brand	public brand of the product	required
	description	product description	required
	part and/or model number	based on AS ISO/IEC 15459.6 accredited product identification standards such as a Global Model Number	required
	product type /product classification	Global product category (GPC), (e.g. Uniclass, UNSPSC etc.)	optional
	net content	(e.g. grams, kilograms, tonnes)	required
	unit of measure	(e.g. each, box, bundle, carton, pallet,)	required
	variant	(e.g. colour, size, chemical composition)	required
	serial number	Number	required if applicable
	batch identifier	number	optional
	country of origin	description	optional
	country of sale	description	optional

Data elements	Classification / Description		Required / Optional
Manufacturer and supplier Product advice and support	business name	supplier company name	required
	business number	such as Australian Business Number (ABN), New Zealand Business Number (NZBN) or International equivalent	optional
	manufacturer contact details	Manufacturer contact details including URL to supplier's website.	required
	supplier contact details	Supplier contact details including URL to supplier's website.	required
	Australian supplier contact details	Australian supplier's contact details including URL to supplier's website.	if different
Product Conformance Product Technical Statement	Statement of application and intended use	<p>how and where the product is fit for its intended purpose to achieve the nominated applicable Performance Requirement(s) or Deemed to Satisfy Provision(s) of the NCC, including:</p> <ul style="list-style-type: none"> i. NCC edition; and ii. classification of building or structure as prescribed by the NCC for which the product is applicable; and iii. type of construction for which is applicable; and iv. NCC clause number; or v. where not covered specifically by the NCC, the standard number, title, and edition, and any other relevant details. 	required

Data elements	Classification / Description	Required / Optional
	<p>Conformity declaration</p> <p>from the supplier confirming that the product meets the relevant requirements of the NCC or standards that are noted in 'Statement of application and intended use'.</p> <p>includes evidence which is sufficient to substantiate the conformity claim and:</p> <ul style="list-style-type: none"> i. be unambiguous and indicate full compliance with the stated requirements; and ii. reference where evidence of proportionality of risk is required, a documented process undertaken to determine which evidence in A5G3 is suitable to demonstrate conformity; and iii. include proof of that evidence (test reports, inspection records, etc); and iv. include any other documents and the extent to which they are relied upon in making the declaration; and v. include any other information as required by NCC. <p>does not need to include or reference intellectual property and confidential information.</p>	<p>required</p>
	<p>evidence in support of conformity declaration (e.g. conformity certificates)</p> <p>issued by a body having authority that is commensurate with the requirements of the relevant NCC Evidence of suitability pathway.</p> <p>For further information on conformity evidence see Testing, Inspection and Certification for Building Product Conformance.</p> <p>Can be verified via Digital Product Conformity Certificate Exchange.</p>	<p>required</p>

Data elements	Classification / Description	Required / Optional
limitations of use	<ul style="list-style-type: none"> ● specific limitations and conditions of use as far as they relate to compliance with the NCC. Include expected service life determined by testing to applicable durability standards, where such standards exist for the material or product. Reference to additional documentation may be included if required. ● warranties. 	required
conditions of use	conditions on the use of the building component relevant to its compliance claims	required
instruction of design, construction or installation	<ul style="list-style-type: none"> ● instructions for installation to preserve the proper functioning of the product or material and maintain its expected service life ● reference to additional documentation may be included if required 	required
maintenance instructions	<ul style="list-style-type: none"> ● instructions for maintenance to preserve the proper functioning of the product or material and maintain its expected service life ● reference to additional documentation may be included if required 	required
date of issue	date (dd/mm/yyyy format) that the Product Technical Statement comes into effect	required
version number	version number of the conformance information	required
date of issue / last revision	date (dd/mm/yyyy format) that the information was issued, last revised/edited	required
expiry provisions	expiry date (dd/mm/yyyy format) of the Product Technical Statement	required
product advice and support	contacts details for technical advice and support in Australia and/or New Zealand	required

Data elements	Classification / Description	Required / Optional	
	supplier quality assurance	statement of the supplier's QA compliance	where available
	service life (average and maximum)	dd/mm/yyyy format	where required
Environmental and social performance	Responsible Products Value	provided by the Green Building Council of Australia	where required
	Environment Product Declaration	digitised to ISO 22057	where provided
	carbon – embodied	<ul style="list-style-type: none"> ● GWP by CO2 - eq ● NABERS Rating Certificate 	optional
	carbon - stored	NABERS Rating Certificate via a Carbon Removal Indicator ⁶	optional
	recycled content	provenance, composition, quality	where required
	modern slavery	evidence of a social audit to the International Labour Organization indicators of forced labour	where required
	other environmental and social performance attributes		optional
Transaction data	input item identifier	globally unique identification number for item groupings based on AS ISO/IEC 15459.6, or unique instances of an item based on AS ISO/IEC 15459.4, accredited product identification standards such as a Global Trade Item Number (GTIN)	required
	input item description	product description	required
	location identifier	globally unique identification number based on AS ISO/IEC 15459.4 and ISO/IEC 6523 location identification standard such as Global Location Number (GLN)	required

⁶ [Embodied Emissions Technical Report \(nabers.gov.au\)](#)

Data elements	Classification / Description	Required / Optional
input quantity	number	required
receipt date	dd/mm/yyyy format	required
sender identifier	globally unique identification number based on AS ISO/IEC 15459.4 and ISO/IEC 6523 location identification standards such as Global Location Number (GLN)	required
output item description	description	required
output item quantity	number	required
ship date	dd/mm/yyyy format	required
shipment identifier	Serial Shipping Container Code (SSCC) AS ISO/IEC 15459.1	required
receiver identifier	globally unique identification number based on AS ISO/IEC 15459.4 and ISO/IEC 6523 location identification standards such as Global Location Number (GLN)	required
ship from location	globally unique identification number based on AS ISO/IEC 15459.4 and ISO/IEC 6523 location identification standards such as Global Location Number (GLN)	required
ship to location	globally unique identification number based on AS ISO/IEC 15459.4 and ISO/IEC 6523 location identification standards such as Global Location Number (GLN)	required
transporter	globally unique identification number based on AS ISO/IEC 15459.4 and ISO/IEC 6523 location identification standards such as Global Location Number (GLN)	required

To learn more about current digital traceability pilots and projects visit the [National Building Products Coalition website](#).

