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# Product Assurance Decision Tool

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This product assurance decision tool can help you decide the best way to meet your Building Act responsibilities and show your building products or systems comply with the New Zealand Building Code. If you use this as a worksheet the information could contribute to your business planning, help brief a testing specialist, or help you to apply for further assessment.

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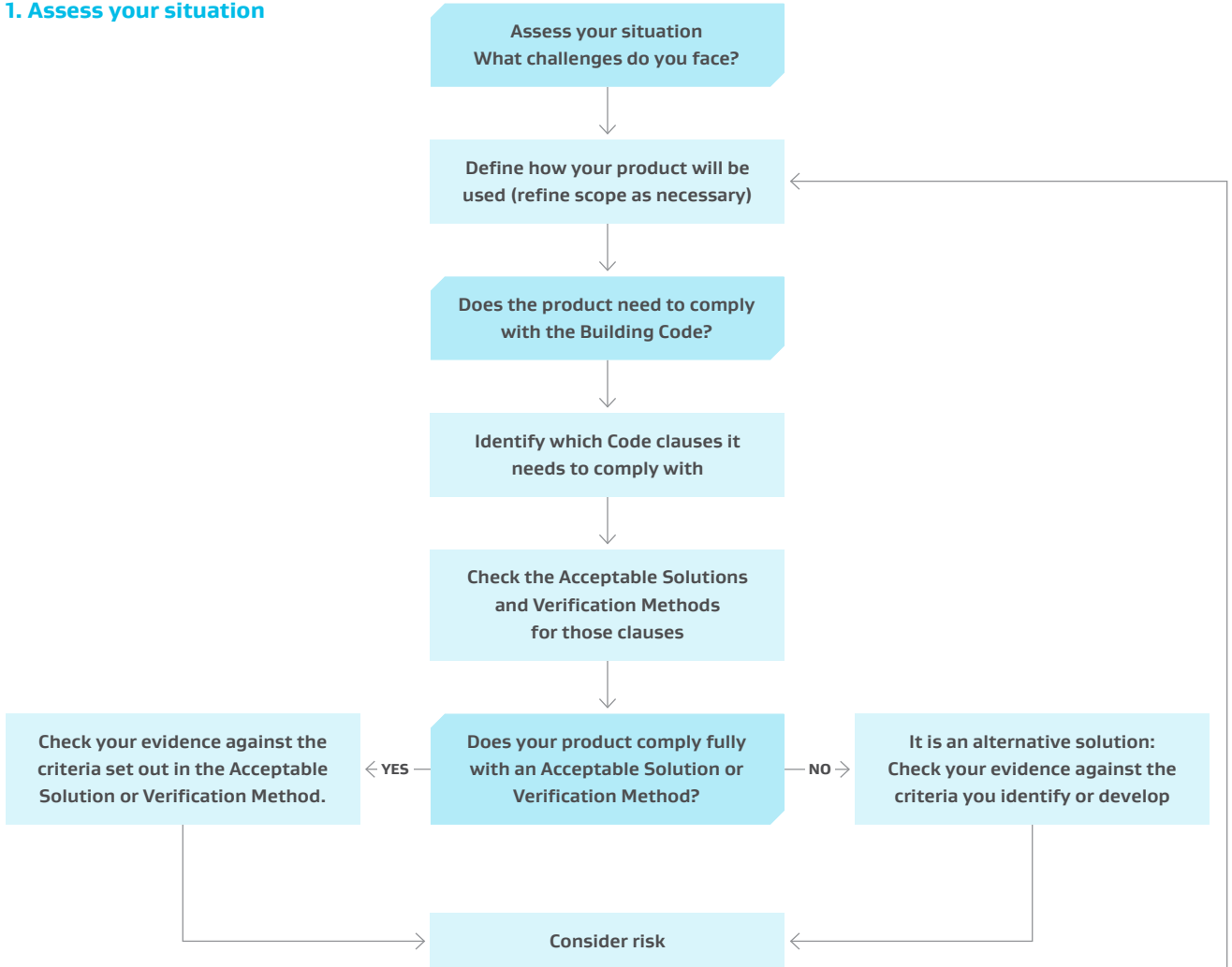
The Ministry of Business, Innovation and Employment has developed this decision tool after workshops with building consent authorities (BCAs), product manufacturers and suppliers, designers and others in the building industry.

You can find out more about product assurance at the Ministry of Business, Innovation and Employment website at [www.building.govt.nz/product-assurance](http://www.building.govt.nz/product-assurance). This includes the material in this document as well as:

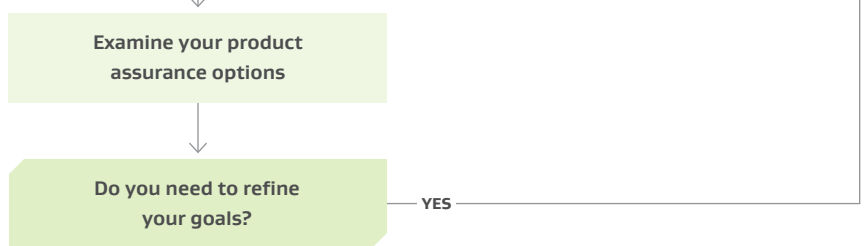
- more information about the Building Code and how this applies to your products
- tips and tools for preparing a product technical statement to summarise your key product information
- frequently asked questions, and
- expert help – links to individuals and organisations that can help you with product compliance, testing and other requirements.

# Product Assurance Decision Tool

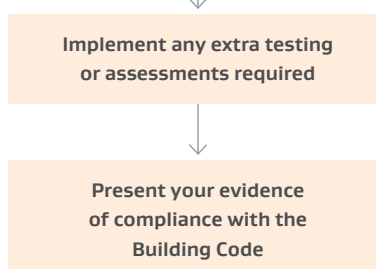
## 1. Assess your situation



## 2. Make sound business decisions



## 3. Take action



## STEP 1: Assess your situation

### IDENTIFY YOUR BUSINESS GOALS AND CHALLENGES

What are your goals for your building product or method, and what challenges do you face getting it accepted in the market or achieving Building Code compliance? It is essential to pinpoint these before you go any further so you invest in the most appropriate forms of product assurance.

**How different and innovative is your product? Is it just an improvement to an existing product or is it a radically different solution?**

**Are you having problems getting a foot in the door with trade merchants, designers, builders or consumers? Which groups in particular, and what do you think the problems are?**

**What is the market size and your likely share? Is your product likely to be used in a few niche instances or is it possible it will be used universally?**

**What is the quality of your evidence base for the product? Has it been subject to local or overseas testing?**

Are you facing challenges proving Code compliance to BCAs? Are you successfully proving compliance but facing additional costs and delays each time your product is specified?

If you make or distribute a range of building products, are there issues across the whole range or just for specific products, zones (eg wind or seismic zones) or uses? What percentage is this of total sales and is it an appropriate use of the product?

Is there anything else causing you extra difficulty, time or expense?

### DEFINE HOW YOUR BUILDING PRODUCT WILL BE USED

Before introducing a building product or system to the New Zealand market, you need to establish how it will be used (ie its purpose) as this affects what you need to do to show Building Code compliance.

You should also look at your building product in the context of the system it forms part of, not just in isolation. This is critical when you are deciding which product assurance option to choose.



*For example, for a cladding system you need to consider not just the cladding but also how it integrates with the building wrap, the window system and the external building features.*


**How will your product be used?** (eg as a structural element, as decking, as wall lining etc)

**What conditions will it be used in?** (eg in earthquake or high wind zones)

**DOES YOUR PRODUCT NEED TO COMPLY WITH THE BUILDING CODE?**

The Building Code has 37 technical clauses covering such areas as building stability, fire safety, moisture and durability. Check to see if your product or system needs to comply with any of these: this will depend on your product and how you plan to use it. While not all Code clauses will be relevant, you will probably have to satisfy at least three: the performance claimed (eg for a tap, this might be against the performance requirements of clause G12 Water supplies, clause B2 Durability and clause F2 Hazardous building materials).

You may come back to this stage and limit your product’s purpose and use so you have to comply with fewer Code clauses. For example, if your product is a decking timber you may decide to limit its use to areas that are not access routes if you have no evidence of its slip resistance. This can make it easier to prove Code compliance for a new product, or to seek a product appraisal or certification.

 *The Building Code describes how completed building work must perform rather than how a building must be built. What this means is any product or system can be used in a building as long as it meets the relevant performance requirements of this code.*

*Examples of products not covered by the Building Code include kitchen cupboard door handles, architraves and curtain rails. Examples of products covered depending on their use are doors (these are covered by the Building Code if they are fire doors, but not otherwise).*

**What Code clauses are relevant to your product?** Note: the specific performance clauses that apply: eg B2.3.1 (b).

**ESTABLISH WHAT YOU NEED TO SHOW CODE COMPLIANCE**

You will need to provide evidence to show your product complies with the performance requirements of each relevant Code clause. You can do this by:

- providing products that perform according to the methods set out in an Acceptable Solution or Verification Method<sup>1</sup> for a particular Code clause or
- considering other ways to show your product meets the relevant performance requirements; ie providing an alternative solution<sup>2</sup>.

1. [www.building.govt.nz/compliance-documents](http://www.building.govt.nz/compliance-documents)  
 2. [www.building.govt.nz/bic-alternative-solutions](http://www.building.govt.nz/bic-alternative-solutions)



The Ministry publishes *Acceptable Solutions* (step-by-step building methods) and *Verification Methods* (calculations or test methods) relating to specific clauses of the Building Code. Following these documents exactly (along with any tests or standards cited in them) is one way – but not the only way – to show compliance with the Building Code. Building designs based on these documents must be accepted by BCAs as Code compliant.

To comply fully with an *Acceptable Solution* or *Verification Method*, your product must meet all their requirements and you must have evidence to show this. Otherwise your product will have to follow an *alternative solution*.

Check the *Acceptable Solutions* and *Verification Methods* for each of the relevant Code clauses. If your product can follow one of these, the criteria it has to meet are clearly set out in these documents.

If you have to provide an alternative solution to show compliance with a particular Code clause, you need to identify or develop criteria that, if met, will demonstrate compliance with that Code clause. You then need to evaluate your product against those criteria. When considering what this might involve, you may find it useful to:

- **compare your product against a relevant product standard referenced in an *Acceptable Solution* or *Verification Method***
- **compare the product to another document** (eg a New Zealand or overseas standard, other technical information, test results or research)
- **look at in-service history and performance of a similar product within New Zealand or in similar conditions**
- **identify any relevant determinations<sup>3</sup>** issued by the Ministry. Is there a determination on a situation where a similar product is specified? As determinations relate to a particular case, their application may be limited. However, they do provide sound guidance on the application of the Building Act and Building Code at a particular time.

**List which (if any) of the relevant Code clauses you believe you can follow an *Acceptable Solution* or *Verification Method* for.** Summarise your supporting evidence, noting any gaps.

**List which (if any) of relevant Code clauses you will need to follow an *Alternative Solution* for.** Identify any evidence you already have to demonstrate Code compliance and what additional information you are likely to need.

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 3 [www.building.govt.nz/determinations](http://www.building.govt.nz/determinations)

## STEP 2: Make sound business decisions

### CONSIDER RISK

Unless you already have all the evidence you need to show Code compliance, your next step is to decide what product assurance options to pursue. An important component of this decision is the risk that your product will not be accepted by the New Zealand market as Code compliant. You need to decide how much time and money to invest in managing this risk and still get an acceptable return.

Your business decision will depend on:

- **technical factors** such as how much the product varies from common practice and from the relevant Acceptable Solutions or Verification Methods, the consequences of product failure, the service and testing history of the product in New Zealand, and product durability, and
- **commercial factors** such as likely revenue from product sales, cost of the appropriate product assurance options, whether the product is new or innovative, how long you expect your product to be in demand, and market perception of your product and of its manufacturer or supplier.

BCAs may also take a risk-based approach to the use of your product. However, their perspective will be different as they will consider its use in the context of a particular building consent application. The more risk the BCAs perceive, the more certainty they will want around Code compliance before granting a building consent containing your product.

The following framework may help you consider your product's apparent risk and identify areas where this could be reduced if necessary (eg by providing better installation information or by limiting the situations the product can be used in). In turn, this can help you decide what product assurance options to pursue.



*For the purposes of this risk framework, 'failure' is defined as failure to meet the relevant requirements of the Building Code.*

| What is the likelihood of failure?   |   |   |  |
|--|---|---|--|
| <p><b>Rare</b></p> <p>Only in exceptional circumstances</p>  | <p><b>Unlikely</b></p> <p>Would not be expected to happen in durability lifetime of product</p> | <p><b>Possible</b></p> <p>May happen at end of durability lifetime of product</p> | <p><b>Likely</b></p> <p>Might happen in durability lifetime of product</p> |
| <p><b>Factors influencing your product's rating</b></p> <p>You should consider a range of factors when deciding where your product or system might sit on this scale, including:</p> <ul style="list-style-type: none"> <li>• <b>Previous evidence of failure:</b> have there been any problems in the past with your, or similar, products? Have there been any changes made (eg to installation methods or product components) to reduce or remove this risk?</li> <li>• <b>Installation:</b> is the product simple to install, does it require some building knowledge, or can it only be installed by LBPs or company-approved installers? If it requires installation instructions are these clear and readily available?</li> <li>• <b>Maintenance:</b> how important is maintenance to the product's performance/likelihood of failure? How likely is the building owner to carry out this maintenance, bearing in mind the product's visibility and accessibility? Does a qualified person need to carry out this maintenance? Are maintenance instructions readily available?</li> <li>• <b>Discoverability:</b> is the product visible during daily use? During maintenance? Is it likely to fail without warning, or would any impending failure be apparent and therefore able to be fixed?</li> </ul> |   |   |  |
| <p><b>Ways to reduce this rating</b></p> <p>Possibilities include:</p> <ul style="list-style-type: none"> <li>• limiting the product or system's scope of use</li> <li>• making changes to the way it is produced or installed to mitigate previous problems or the likelihood of failure</li> <li>• implementing or improving a quality assurance system for its manufacture</li> <li>• improving your installation and maintenance requirements and information (eg for complex products or systems, you might require more controls or oversight on who can install these).</li> </ul>  |   |   |  |
| <p><b>Your notes:</b></p>  |   |   |  |



| What is the consequence of failure? |                                    |  |  |
|-------------------------------------|------------------------------------|--|--|
| Insignificant                       | Minor                              | Significant                                    | Major  |
| No risk of harm to building users   | Might cause harm to building users | Causes injury or illness and/or financial loss | Potential loss of life and/or substantial financial loss |

**Factors influencing your product’s rating**

You should consider a range of factors when deciding where your product or system might sit on this scale, including:

- **Scale of failure:** would this be minimal, moderate (eg failure would result in a leak/water ingress) or substantial (eg failure would render the building uninhabitable)?
- **Impact on other building components:** would any product failure be isolated or could it affect other building components? How serious could this be?
- **Notice of failure:** would there be any warning of failure so that any impact on people’s health and safety could be addressed before this was serious or, in an extreme case, to allow people to evacuate before the building collapsed?
- **Financial loss:** will failure cause any financial loss to the building owner or neighbouring building owners, and if so to what extent?

**Ways to reduce this rating**

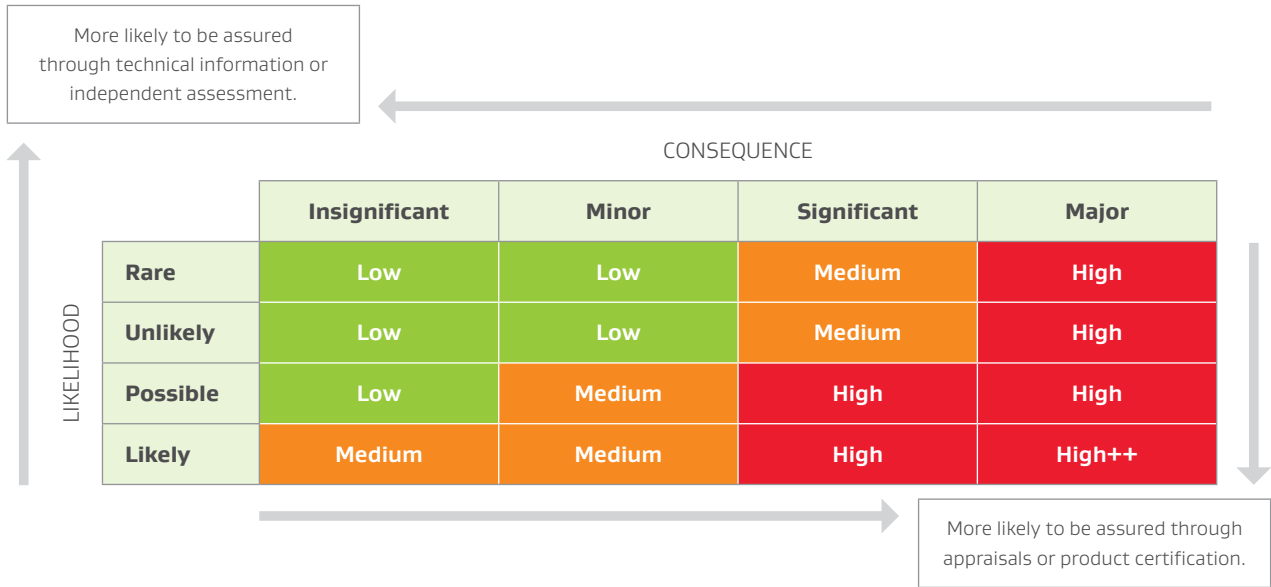
Possibilities include:

- making changes to the way the product is installed to reduce the severity of impact if it did fail (eg you could consider specifying more fixings than required for structural framing so that if one were to fail the remaining fixings would provide enough structural support)
- changes to product design to put in place a backup system for any failure (eg backup power for life safety systems such as emergency lighting and/or smoke detector systems)
- implementing warning systems if possible – eg alerts if a smoke detection system has a fault.

**Your notes:**

Once you have decided the likelihood and consequence of failure you think apply to your product, you can map these against the risk framework below. Consider whether it is worth investing further in this product, or what you can do to reduce the level of risk.

Note: assessing risk is always subjective. This sample framework is only a guide which may assist you in your decision making process.



**What is the overall level of risk?** Are there any ways you could reduce this?

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## DECIDE ON YOUR PRODUCT ASSURANCE OPTIONS

Review your product assurance options<sup>4</sup> now you have a better idea what you require to show Building Code compliance and manage risk. In some cases you might already be following a particular option but want or need to follow another pathway.

Your options include: technical information, independent assessments, industry-based schemes, appraisals, and/or product certification (CodeMark).

**What product assurance options have you already pursued and what further steps do you want to take?**  
Remember: the higher the level of risk the more comprehensive product evidence you are likely to have to provide.

**Refine your goals if necessary:** which of your building products or systems – or which uses of them – would you get the most benefit from if you have them tested, appraised or certified? These could be the ones with the most customers or those facing the most issues with BCAs.

| <b>Does it make business sense to do any of the following?</b>   |  |
|---|--|
| <b>Limit the purpose and use of your products</b> (ie where in the country and where on the building they can be used) so they have to comply with fewer Code clauses. Consider limiting by physical, geographical or environmental zones (eg not in high corrosion or high wind areas) or by how they are used (eg not for structural purposes). |  |
| <b>Group your products into families</b> (eg you may have 50 different types of fixings but all with the same manufacturing and installation methods). Consider extra product assurance options for only some of these families (eg those that are widely used in a range of circumstances).  |  |
| <b>Take things one step at a time:</b> for example, for a relatively low-risk product you could concentrate on improving your technical information and have this independently assessed before deciding whether you need a product appraisal or certification. This may prove to be enough for demonstrating Code compliance.                    |  |
| <b>Your notes:</b>  |  |

<sup>4</sup> Visit [www.building.govt.nz/product-assurance](http://www.building.govt.nz/product-assurance) for more information about these.

## STEP 3: Take action

### IMPLEMENT ANY EXTRA PRODUCT TESTING OR ASSESSMENTS

Depending on the product assurance option you have chosen, carry out any extra testing you need or commission an assessment, appraisal or product certification. Make sure that any test results you do obtain are relevant to New Zealand conditions and Building Code requirements.

**What further product testing or assessment do you need to carry out?** Consider whether you need to engage a third party to help with this.

### ASSEMBLE AND PRESENT YOUR EVIDENCE

Present all your evidence to show Building Code compliance to BCAs and others in the decision chain, such as designers and builders. At a minimum, your evidence must include:

- **relevant technical information**, as opposed to marketing material
- **a purpose and use** statement including any limitations relating to the product's use
- **clear design, construction and installation information** and support for designers and builders
- **clear maintenance information** – what is required and what is the impact on ongoing performance, especially durability, if this is not done?



*We strongly suggest you develop a product technical statement to summarise your key product information and technical data. Find out more at [www.building.govt.nz/product-technical-statements](http://www.building.govt.nz/product-technical-statements).*

### GET EXPERT HELP IF NEEDED

We recommend that you seek expert help with product compliance if you do not have suitably experienced staff or existing advisers. You may need help with understanding New Zealand's building regulations, identifying the most appropriate ways to show Building Code compliance, carrying out technical assessments of your product for Code compliance, or testing and other specialist advice to support those technical assessments.

**Identify and list any expert help you may wish to consult. What are your key queries for these experts?**

## You can also **contact us for more assistance**



Phone: 0800 242 243  
Overseas: +64 4 238 6362

Hours: 8.30 am to 5.00 pm, NZT, Monday – Friday

If you call after 9.00 am NZT we can use Language Line – a free telephone interpreting service – to provide advice and information to non-English speakers.



Postal address:

Ministry of Business, Innovation and Employment  
PO Box 1473, Wellington 6140, New Zealand



Email: [info@mbie.govt.nz](mailto:info@mbie.govt.nz)



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