

Achievement Standard

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| Subject Reference | Construction and Mechanical Technologies 2.20 | | | | |
| Title | Implement advanced procedures using resistant materials to make a specified product with special features | | | | |
| Level | 2 | Credits | 6 | Assessment | Internal |
| Subfield | Technology | | | | |
| Domain | Construction and Mechanical Technologies | | | | |
| Status | Registered | Status date | 17 November 2011 | | |
| Planned review date | 31 December 2020 | Date version published | 17 November 2016 | | |

This achievement standard involves implementing advanced procedures using resistant materials to make a specified product with special features.

Achievement Criteria

| Achievement | Achievement with Merit | Achievement with Excellence |
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| <ul style="list-style-type: none"> Implement advanced procedures using resistant materials to make a specified product with special features. | <ul style="list-style-type: none"> Skilfully implement advanced procedures using resistant materials to make a specified product with special features. | <ul style="list-style-type: none"> Efficiently implement advanced procedures using resistant materials to make a specified product with special features. |

Explanatory Notes

- This achievement standard is derived from Level 7 of the Technology learning area in *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the material in the *Teaching and Learning Guide for Technology*, Ministry of Education at <http://seniorsecondary.tki.org.nz>.

Further information can be found at <http://www.technology.tki.org.nz/>.

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools*, Ministry of Education at <http://technology.tki.org.nz/Curriculum-support/Safety-and-Technology-Education>, and the Health and Safety at Work Act 2015.

This standard is also derived from *Te Marautanga o Aotearoa*. For details of *Te Marautanga o Aotearoa* achievement objectives to which this standard relates, see the [Papa Whakaako](#) for the relevant learning area.

- 2 *Implement advanced procedures using resistant materials to make a specified product with special features* involves:
- selecting techniques to achieve special features
 - undertaking testing to monitor special feature construction to demonstrate that the product meets specifications
 - applying techniques to comply with relevant health and safety regulations.
- Skilfully implement advanced procedures using resistant materials to make a specified product with special features* involves:
- showing independence and accuracy in the execution of the techniques and tests.
- Efficiently implement advanced procedures using resistant materials to make a specified product with special features* involves:
- undertaking techniques and tests in a manner that economises time, effort and materials.
- 3 *Resistant materials* may include but are not limited to: wood, composites, metal, alloys, ceramics, and plastics.
- 4 *Specified product with special features* refers to a product and its relevant specifications, including material specifications. The specifications must be of sufficient rigour to allow the student to meet the standard. The specifications need to be agreed prior to the product being made. They may be teacher-given or developed in negotiation with the student.
- 5 *Advanced procedures* are those that require advanced craft skills.
- 6 *Special features* are those that rely on the application of advanced craft skills to achieve the specified product for this achievement standard, and will require one or more special features from each of the categories below:
- structural: e.g. mortise and tenon joint, lapped dovetailed drawer, annealed component, mig-welded panels, sandcasted component, milling an advanced component
 - aesthetic: e.g. parquetry, inlaid design, turned table legs, taper turned component, dressed edges.
- 7 Advanced craft skills rely on the consistent application of accepted conventions which may relate to such things as flush, parallel, perpendicular, offset, symmetry, array, tolerance, ease, press fit, clearances, eccentricity, and taper.
- 8 Testing procedures may include but are not limited to: measuring, trialling techniques, fitting, and visual checks.
- 9 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards>.

Quality Assurance

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233