
General Certificate of Education **Design and Technology:** **Product Design (3-D Design)**

PROD4

Report on the Examination

2550

June 2016

Version: 1.0

Further copies of this Report are available from aqa.org.uk

Copyright © 2016 AQA and its licensors. All rights reserved.

AQA retains the copyright on all its publications. However, registered schools/colleges for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to schools/colleges to photocopy any material that is acknowledged to a third party even for internal use within the centre.

General Comments

Once again, this year has seen a very broad range of project work which reflects the creative nature of the subject. At A2 level, candidates usually select their own individual project tasks rather than follow a theme set by their teacher. Advanced level candidates should tackle a single substantial design and make tasks. The majority of students meet this criterion but some tackle projects that lack the required rigour which is a particular problem if marked leniently.

However, the appropriate selection of an appropriate project task seems to have been critical in how successful students were in terms of meeting the assessment criteria. Where centres have carefully considered the assessment criteria and what evidence a particular type of project would generate, they have usually had no problems in fulfilling the expectations of the specification. Unfortunately, there are a number of centres that allowed students to embark on projects that were never going to generate sufficient evidence to meet the assessment criteria, and these have often been over rewarded. Centres are reminded to consult their appointed Coursework Advisors to check the suitability of project tasks.

Computer aided manufacturing equipment, in particular 3D printers and laser cutters, are becoming more widely used in schools and colleges. Whilst the use of such equipment is appropriate as a tool, centres are reminded that in order to access the top mark bands for manufacture, students need to demonstrate the use of a wide range of high level making and modelling skills. Where students make their outcomes using 3D printers, laser cutters or CNC routers, they must demonstrate other making skills through the manufacture of accurate models, test pieces, or additional items such as packaging and point of sale displays, if they are to be awarded marks in the top mark band of the making/modelling assessment criterion. Sophisticated computer aided design drawings should be rewarded in the development or communication and presentation sections of the assessment criteria.

1. Context and Objectives

This section of the project is usually completed well and marked accurately by centres. In the best examples, candidates set out the nature of the design problem, a context of where the product might be used, and details of a specific client. Quite often, this work leads seamlessly into further investigation work.

2. Plan of Action and Clarification of Problem

In the best projects, research work is relevant and mostly from primary sources. At A2 level, the best projects involve a client and in this section, candidates will often interview them to find out their specific needs. In addition, it normal for A2 candidates to carry out practical investigations such as disassembly of products, measuring and testing of components or materials. Some of this work might be evident later in the project folder but can be credited under this assessment criterion.

3. Development of Design Proposal

Where marks are awarded in the top mark band, moderators are looking for a varied range of imaginative and feasible ideas. They would expect that following the selection of a design idea, there is some exploration of alternative materials and construction methods. The best examples do this through using notes, diagrams and practical test pieces. Modelling is often used to test ideas and as a designing tool rather than a bolt-on page. At A2 level, we see some excellent use of ICT

to produce detailed manufacturing plans, dimensioned drawings and in many cases 3D CAD ‘artist impressions’ of the final design.

4. Manufacture/modelling

At A2 level, candidates generally tackle more demanding outcomes that enable them to demonstrate the wide range of skills required to access the top level of the mark range. Moderators would expect to see a clear step up in demand from AS level. Centres are reminded to consult their coursework advisor if they are unsure about the level of demand of particular tasks.

5. Conclusions, Evaluations and Recommendations.

Where candidates have selected a project that leads to a working product that can be tested, evaluations are usually much better than those that lead to making a non-functioning block model. It is much easier to test a functioning prototype against relevant criteria, than to test block or scale models. Equally, where candidates have involved a client throughout the development process, they are more likely to produce a better evaluation. They can also pick up marks for on-going evaluation of ideas and chosen product to develop with review work carried out with a client.

The very best responses take the practical outcomes to their intended location and are often tested by the original client. This is often documented with good photographic or in the case of e-portfolios through video evidence. Again, the best evaluations give objective comment, both from the client and from the candidate in comparing the product against the specification.

6. Communication and Presentation.

At this level, candidates generally score well for this criterion, particularly when the folder flows well and tells the story of the product development process. It is expected that there would be differentiation in the marks awarded by the centre for this criterion.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA Website.

Converting Marks into UMS marks

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

[UMS conversion calculator](#)