



A-LEVEL

**DESIGN AND TECHNOLOGY: PRODUCT
DESIGN (3-D DESIGN)**

PROD2

Report on the Examination

Specification 2550

June 2017

Version: 1.0

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Introduction

This year we have seen a vast range of work which has varied from highly demanding, to simpler tasks of a mid to low grade GCSE standard. Folders- either written or digital have often been excessive with many students producing over 100 sheets. Whilst we do not penalise students for this, the amount of work that has gone into such folders must have had a negative impact on the time available to cover the subject content. Centres are reminded that there are exemplar projects available on the Teacher Online Standardising system (TOLS) which can be accessed via eAQA.

The very best work that we see, is often where students are given more freedom of choice with their project brief and are allowed to present work in a more individual or creative way. This approach is to be commended and is a model of good practice for the new specification.

The vast majority of centres correctly present work in either A3 paper folders , PDF or Powerpoint e-portfolios. However, we have had a number of centres presenting work partly in folders, partly in sketch books and/or electronically. Centres are kindly reminded to use **one** format and avoid using supplementary sketch books.

Most centres provide photographs of the making stages, and of the final outcome which greatly assists moderation.

Candidate record forms are often presented without candidate signatures and without teacher annotation to explain their marking.

1. Investigation and Clarification of Problems

The best examples only present investigation work that directly relates to the brief, and work is presented concisely.

Unfortunately there are too many students still producing excessive secondary research with very little in the way of primary, especially product disassembly and analysis, shop visits and focus groups. Unfocussed materials research is still a problem with too much being carried out before the product has been designed and is hence irrelevant. Too many students pad out folders with unnecessary photographs of equipment in the workshop and materials in the storeroom.

Centres are reminded that evidence for criteria 1 can be presented anywhere in the project. For example, research that is useful to the development of the product such as experimentation with materials and construction is often presented in the development or modelling and making.

We are seeing an improvement in the writing of specifications. The best examples focus directly on the research work collected (often referencing it in the specification) and have specific measurable criteria.

2. Development of Design Proposal:

The best examples of work for criteria 2 include a varied range of feasible but creative ideas. Students who work from a limited range of predictable ideas are unlikely to score well.

We are seeing some excellent use of CAD to develop design ideas and the final outcome. However, students should avoid using CAD as the sole means of communication.

We are gradually seeing modelling being used as a vehicle for development. In the best examples, students use a wide range of models in an iterative process, often presenting a combination of sketches, models and CAD drawings on the same sheet, obtaining third party feedback and then remodelling and developing the design further. Unfortunately, there are many students that simply produce a single 3D drawing and a single model of their chosen idea.

Manufacturing specifications (plans) are now generally well presented with details of tools and equipment, materials, quality control and estimated time. The very best, but rare examples are more of a 'live' manufacturing plan which is used to review progress and action plan.

Dimensioned drawings of the final design are often missing.

3. Making and modelling:

There is a huge variety of work presented for manufacturing- varying from traditional to quite innovative. Centres are reminded that the sole use of CAM to produce the outcome should be avoided. Unfortunately we see a large amount of work that is produced on CNC laser cutters, lathes, routers and 3D printers with little supporting work to show the required variety of skills. Students should make use of the full range of tools and equipment that is available to them. The quality of finish on outcomes needs to be a focus. We often see MDF pieces straight from the laser cutter with charred edges, or 3D printed pieces with no attempt to sand them or apply finishes. Where the outcome has been made using CAM, students should demonstrate other skills in making preliminary models, test pieces and prototypes.

4. Evaluation and Testing:

The vast majority of students produce very good summative evaluations which include product testing, a comparison to the specification, third party opinion and notes and diagrams to explain possible improvements.

Analysis of research, formal evaluation of initial ideas and modelling, especially using the views of others, is often missing.

5. Communication and Presentation:

There is some excellent work presented using a wide range of media. This often helps to boost the overall mark. However, this section is sometimes over rewarded with high marks given for fairly average communication. At worst, folders are often disorganised, loosely bound with treasury tags and have sheets that are upside down or in the wrong place. Centres are encouraged to advise their students on the efficient use of the sheet space. Quite often we see sheets with a large title, large font size text and a single, badly drawn sketch.

Mark Ranges and Award of Grades

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