GCE D&T 6MR01 Product Design: Resistant Materials Technology Assessment Guidance.

The assessment guidance outlined below underpins the assessment criteria published in the Edexcel GCE Design and Technology: Product Design Specification. The guidance emphasises some of the key points that must be considered carefully when awarding marks to candidate work. It is designed to help supervising teachers assess candidate work with close reference to the assessment criteria. The criteria published in the GCE Design and Technology Specification are the official resource that must be used when assessing candidate work. Please be aware that the guidance produced here is not an alternative set of assessment criteria nor does it replace the published criteria.

Assessment Criteria	Assessment Guidance - Key Issues to Consider When Marking 6RM01
A. Performance analysis	• Specification points should relate to form; function; user requirements; performance requirements; scale of production and cost. • They should be measurable and justified. • There should be a comparison with a similar product using the same points.
B.Materials and components	• Two materials should be identified and one alternative suggested for each. • Properties/advantages/disadvantages should be identified and be selective in relation to the product and not be generic. • Materials should be justified for their use in the product. • Environmental impact' should relate to extraction and processing of raw materials.
C. Manufacture	• Two manufacturing processes should be identified and one alternative for one process suggested. • Processes should be justified for use in the product. • Advantages/disadvantages of processes should link to the product and should not be generic. • Environmental impact' should focus on the use of the processes identified.
D.Quality	• Quality control checks should relate to the manufacture of the product. • They should include details of what the checks are and how they are carried out. • A quality assurance system should be described detailing such things as Preparation; Processing; Assembly; Finishing; After-sales and should not be a general description of QA. • Specific standards should be identified and not described generally. • There should be an explanation of how standards influence the manufacture of the product.

E. Design and development	• Designs should be realistic and workable. • Fewer designs that are well analysed should be focused on rather than too many that are undetailed. • Design sub-systems should be included and explored graphically. • Annotation should include details of possible materials and processes that could be used during manufacture. • Annotation should refer to design criteria and justify how designs meet/do not meet these. • Design development should show further design input to refine details into a final design proposal. • The final design proposal should be modelled in either resistant materials or in 3D CAD. • Modelling should be justified to say what it is testing. • The final design proposal should be evaluated objectively against design criteria.
F.Communicate	• A range of media should be used with skill and accuracy. • There should be enough information presented in the final design proposal to allow a third party to make the product. • Annotation should use technical language logically to convey information.
G. Production plan	• There should be a recognisable sequence of making tasks presented in the correct order. • Quality control checks should give details of what they are and how they are carried out. • Checks should be realistic and not questions e.g. 'is it the right size'? • Time should be recorded in minutes/hours and not in lessons, days, and dates.
H. Making	• Product(s) should demonstrate the use of at least two different materials. • The choice of materials should be justified for use. • Making the product should present challenging tasks. • The outcome should demonstrate high quality skills and precision. • A maximum of 50% of CAM should be used. • The outcome should be appropriate to AS work one year on from GCSE.
I. Testing	• At least two tests should be carried out against measurable making criteria. • Tests should focus on performance and quality. • Descriptions of tests should include details of how they were carried out and what the results were. • Comments from third party testing should relate to measurable making criteria.