

**PRACTICAL TEST MARK SHEET FOR
METAL-ARC GAS SHIELDED WELDING**



BUTT WELD

This sheet covers the following Units:

Level 2 Award and Certificate in Fabrication and Welding Practice

Unit 4: Metal-Arc Gas Shielded Welding

Level 3 Award, Certificate and Diploma in Fabrication and Welding Practice

Unit 4: Metal-Arc Gas Shielded Welding - Vertical

Unit 15: Metal-Arc Gas Shielded Welding - Overhead

Unit 16: Metal-Arc Gas Shielded Welding – Overhead (Aluminium)

Unit 17: Metal-Arc Gas Shielded Welding – Overhead (Stainless Steel)

Unit 18: Metal-Arc Gas Shielded Welding – Overhead (Pipe)

Learner Name:

Centre Name:

To be completed by the course tutor:

Unit	Level 2		Level 3		Level 3		Level 3		Level 3		Level 3	
	4	Time	4	Time	15	Time	16	Time	17	Time	18	Time
Material												
Low Carbon Steel		30 mins		30 mins		45 mins						
Aluminium		30 mins		30 mins				45 mins				
Stainless Steel		30 mins		30 mins						45 mins		
Pipe												90 mins
Position used	Flat		Vertical		Overhead		Overhead		Overhead		Overhead	

Indicate the Unit and Material being tested by putting a tick **P** in the relevant box. The permitted time, in minutes, for carrying out the relevant practical test is given in the box next to where the tick is to be put.

To be completed by the learner, by hand:

1	Thickness of parent material	
2	Electrode specification and diameter	
3	Current and voltage used	
4	Shielding gas composition	
5	Flow rate	

Part 1: Visual Examination of Product

			Grade Awarded			
	Defect type	Specification and assessment criteria	D	M	P	F
1	Cracks	Cracks are NOT permitted. Pass or Fail only. If a Fail then do not proceed.				
2	Porosity	Length of weld free of porosity: Distinction = 200mm Merit = 190mm Pass = 180mm Fail = < 180mm				
3	Lack of penetration	Total length of full penetration: Distinction = 180mm Merit = 150mm Pass = 120mm Fail = < 120mm				
4	Undercut (measurable on both sides, i.e. 400mm)	Maximum permitted depth = 10% of thickness. Total joint length to be free of undercut: Distinction = 340mm Merit = 320mm Pass = 300mm Fail = < 300mm				
5	Excess weld metal	Maximum permitted height to be 30% of thickness. Maximum permitted width of weld to be 2mm either side of the preparation. Total joint length to be free within the given range: Distinction = 170mm Merit = 160mm Pass = 150mm Fail = < 150mm				
6	Excessive penetration	Maximum permitted is 30% of thickness, or 3mm, whichever is the smaller. Total joint length to be free within given range: Distinction = 170mm Merit = 160mm Pass = 150mm Fail = < 150mm				
7	Linear misalignment	Misalignment at any point along the length not to exceed: Distinction = none Merit = up to 10% thickness Pass = up to 15% thickness Fail = greater than 15% thickness				
8	Incompletely filled groove	Maximum depth of 10% thickness, but only intermittent. Total joint length with completely filled groove: Distinction = 170mm Merit = 160mm Pass = 150mm Fail = < 150mm				
9	Overlap (measurable on both sides, i.e. 400mm)	Total joint length to be free from overlap: Distinction = 400mm Merit = 385mm Pass = 375mm Fail = < 375mm				
How to determine the grade for Part 1:			D	M	P	F
Distinction = 6 Distinctions and all other grades to be Pass or higher. Merit = 6 Merits or greater and all other grades to be Pass or higher. Pass = No Fail grade Fail = Any Fail grade		Grade Awarded for Part 1				

Key:

D = Distinction

M = Merit

P = Pass

F = Fail

Part 2: Destruction Examination

	Test	Assessment Criteria (Pass / Fail only)	Grade Awarded			
			D	M	P	F
1	Bend tests	1 root test No fracture is permitted. Maximum tear or rupture permitted is 10mm accumulative. Former size 4x thickness. Angle of bend test not less than 90°.				
		1 face test No fracture is permitted. Maximum tear or rupture permitted is 10mm accumulative. Former size 4x thickness. Angle of bend test not less than 90°.				
2	Fracture test	Slag, porosity, gas pores, lack of fusion to walls. Total cumulative faults to be no more than 25% of the surface area. Must include stop/start, 35mm width.				
How to determine the grade for Part 2:			D	M	P	F
Pass = 3 Passes Fail = Any Fail grade			Grade Awarded for Part 2			

How to determine the overall grade for this practical test:			
Part 1	Part 2	Overall Grade Achieved	
			Course Tutor Signature
Distinction	Pass	Distinction	
Merit	Pass	Merit	
Pass	Pass	Pass	
Any Fail Grade		Fail	
Course Tutor Feedback			
Comment:			
Learners Signature:		Course Tutor Signature:	
Date:		Date:	
Internal Moderator / Verifier Feedback (if sampled)			
Comment:			
Internal Moderator / Verifier Signature:		Date:	
External Moderator (if sampled)			
I have checked the information recorded in this document and am* / am not* satisfied of its accuracy, authenticity and validity (* Delete as appropriate and comment if required)			
External Moderator Signature:		Date:	



DECLARATION OF AUTHENTICITY

This declaration must be completed and signed by the learner and countersigned by the tutor/assessor.

Learner Name:

Learner Number:

Centre:

Learner's statement of authenticity

I confirm that the attached assignment/portfolio is all my own work* and does not include any work completed by anyone other than myself. I have completed the assignment/portfolio in accordance with the Awarding Body instructions and within the time limits set by my Centre.

Signature:

Date:

Centre confirmation of authenticity

On behalf of(insert centre name), I confirm that the above mentioned learner, to the best of my knowledge, is the sole author of the completed assignment/portfolio attached.

Signed:

Date:

Name:

Job Description:

*Unless otherwise stated e.g. for some entry level qualifications learners can work together but should show sections which are their own work.