

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



FILLET WELD

This sheet covers the following Units:

Level 2 Award and Certificate in Fabrication and Welding Practice
Unit 5: Tungsten-Arc Gas Shielded Welding

Level 3 Award, Certificate and Diploma in Fabrication and Welding Practice
Unit 5: Tungsten-Arc Gas Shielded Welding - Vertical
Unit 19: Tungsten -Arc Gas Shielded Welding - Overhead
Unit 20: Tungsten -Arc Gas Shielded Welding – Overhead (Aluminium)
Unit 21: Tungsten -Arc Gas Shielded Welding – Overhead (Stainless Steel)
Unit 22: Tungsten -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			
	5	Time	5	Time	19	Time	20	Time	21	Time	22	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	Horizontal Vertical		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	Filler specification and diameter	
3	Tungsten type and diameter	
4	Shielding gas composition and flow rate	
5	Polarity	

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	Solid inclusions	Intermittent only permitted. Maximum diameter of 3mm; up to 3mm length. Total joint length free of solid inclusions. Distinction = 170mm Merit = 160mm Pass = 150mm Fail = < 150mm				
4	Lack of penetration	Total length of full penetration: Distinction = 180mm Merit = 150mm Pass = 120mm Fail = < 120mm				
5	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				
6	Excessive convexity	Maximum permitted height to be 30% of thickness. Smooth, even ripples. Total joint length to be free within the given range: Distinction = 170mm Merit = 160mm Pass = 150mm Fail = < 150mm				
7	Uneven throat thickness (concave fillet)	Maximum depth of 10% thickness, but only intermittent. Total joint length with completely filled groove: Distinction = 170mm Merit = 160mm Pass = 150mm Fail = < 150mm				
8	Angular misalignment	Angular misalignment at any point along the length not to exceed the following: Distinction = none Merit = up to 15% thickness Pass = up to 20% thickness Fail = > 20% thickness				
9	Linear misalignment	Linear misalignment at any point along the length not to exceed the following: Distinction = none Merit = up to 15% thickness Pass = up to 20% thickness Fail = > 20% thickness				
10	Excessive asymmetry	Uniform and equal leg length. Total joint length with completely and even leg lengths; Correct weld size: Distinction = 180mm Merit = 150mm Pass = 120mm Fail = < 120mm				
How to determine the grade for Part 1:			D	M	P	F
Distinction = 7 Distinctions and all other grades to be Pass or higher. Merit = 7 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

			Grade Awarded			
	Test	Assessment Criteria (Pass / Fail only)	D	M	P	F
1	Macro-etch examination	To be done at a stop/start position. Adequate side/root fusion. Internal defects – total cumulative faults no more than 10% of the surface area.				
2	Fracture test	Slag, porosity, gas pores, lack of fusion to walls. Total cumulative faults to be no more than 10% of the surface area.				
How to determine the grade for Part 2:			D	M	P	F
Pass = 2 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 candidate 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.