



THERMIT WELDING -10 Day TRAINING PROGRAM - Days 1 - 5

Course Code No TTWTC-01

TIME	Day 1 Theory	Day 2 Theory/Practical	Day 3 Practical / Skills	Day 4 Practical / Skills	Day 5 Practical / Skills		
08:00 hours or as designated	Introduction / Thermit Welding Theory Lecture Power Point Presentation	Gas and Equip. usage Safety precautions Rail end preparation Short Oral test ^	Practical test* Cutting / Weld Gap Gas / Saw	Demonstration weld set up procedures results achieved	Practical test* General weld set up procedures	As Designated	As Designated
09:30 - 09:45 or as designated	Morning Break	Morning Break	Morning Break	Morning Break	Morning Break		
▼	Thermit Welding Theory Lecture Continued	Demo Rail Cutting Setting Weld Gap 4 Uses Gap Gauge	Cleaning Rail ends & Setting Weld Gap Rail alignment	Sand Mould Units Luting Sand & Usage	General weld set up procedures continued		
12:00 -12:30 or as designated	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break		
▼	Thermit Welding Theory Lecture Continued	Rail Alignment instruction continued Problem solving	Identification of Thermit Hardware & Auxiliary Equipment components	Identification of preheating equip. Regulators, hoses preheating torch,	Pre loading of Crucible components including fumes filter unit		
▼	Thermit Welding Theory Lecture Continued	Rail alignment instruction continued including New to Head Worn rail & results achieved	Thermit Welding Kits, welding portions & specified grades. Sand Moulds & Base Plates & general usage	flashback arrestors Setting Gas pressures Gas usage & specified safety procedures	Preheating of rail ends, portion ignition, reaction & pour, timing of equipment removal		
▼	Gas Safety Awareness Safety with Gases Safe work practices Safety Apparel & equip Short Oral test ^	Practical Test* Rail Alignment Steel Wedges or A - Frames Alignment Beam	MU &SU Crucibles, associated equipment and general usage Short Oral test ^	Demonstration rail end preheating operations & overall results achieved	Demo. Weld shearing operations preliminary grinding operations. Finish grinding & tolerances achieved.		
15:00 -15:15 or as designated	Afternoon Break	Afternoon Break	Afternoon Break	Afternoon Break	Afternoon Break		
16:00 hours ▼	Gas Safety Awareness GSA-Written Exam #	Review of day & Learning Outcomes	Review of day & Learning Outcomes	Review of day & Learning Outcomes	Review of week & Learning Outcomes		
16:30 hours					End of Week 1		



THERMIT WELDING -10 Day TRAINING PROGRAM - Days 6-10

Course Code No TTWTC-01

TIME	Day 6 Theory/Practical	Day 7 Practical / Skills	Day 8 Practical / Skills	Day 9 Practical / Skills	Day 10 Theory / Practical		
0800 hours Or as designated	Recap on week 1 Learning Outcomes including Power Point presentation	Practical test* Complete weld set up working steps	Practical test* Instruction Preliminary and Final grinding	Practical test* Qualification welds continued	Practical test* Profile grinding & weld finish Short Oral test ^	As Designated	As Designated
09:30 -09:45 Or as designated	Morning Break	Morning Break	Morning Break	Morning Break	Morning Break		
▼	Group discussion Question & time Short Oral test ^	Welding Defects & Corrective action	Practical test* Instruction Preliminary and Final grinding	Qualification welds continued ↓	Inspection criteria Acceptable / Unacceptable tolerances		
12:00-12:30 or as designated	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break		
▼	Practical test* Rail end prep. Cutting Rail weld gap Cleaning rail ends	Preheating operation Crucible loading Ignition/Reaction & pour	Commencement of Qualification welds	Qualification welds continued ↓	Testing of qualification welds		
▼	Setting weld gap Weld joint alignment Fitting of moulds Luting & sealing of moulds	Equipment / Crucible removal & Timing Weld shearing operations, timing & results achieved	Qualification welds continued ↓	Qualification welds continued ↓	Testing of qualification welds & overall practical test results		
▼	Preheating operations Completion of Preheat trials <u>all</u> trainees & results achieved	General cleaning of welded joints Demo Instruction prelim & final grinding	Qualification welds continued ↓	Completion of Qualification welds	Written Exam Thermit Welding Procedures Marking & overall audit results		
15:00-15:15 Or as designated	Afternoon Break	Afternoon Break	Afternoon Break	Afternoon Break	Afternoon Break		
16:00 hours ▼	Question and answer time	Welding defects and Corrective action	Review of day & Learning Outcomes	Review of day & Learning Outcomes	Group Discussion/ findings General course recap		
16:30 hours					Week 2 End of course		