

PRESSURE VESSEL DESIGN FUNDAMENTALS – AS 1210 TRAINING COURSE

COURSE DATES: TBC

COURSE OUTLINE

DAY 1

TIME	COURSE SUBJECT
08:30-9:30	INTRODUCTIONS
	HISTORY AND DEVELOPMENT OF AS 1210
	REVIEW OF AUSTRALIAN REGULATIONS AND RELEVANT STANDARDS (AS 1200, AS 3920, AS 1210, AS3788, AS 4343)
09:30-09:45	MORNING TEA
9:45-12:00	REVIEW OF AUSTRALIAN REGULATIONS AND RELEVANT STANDARDS (AS 1200, AS 3920, AS 1210, AS3788, AS 4343)
	CODE COMPARISONS AS 1210 vs ASME VIII-1
	DESIGN PRINCIPLES
	CONTENT AND OVERVIEW OF AS 1210
12:00-12:30	LUNCH
12:30-14:30	GENERAL DESIGN CRITERIA AND MATERIALS
	WELDED JOINTS AND JOINT EFFICIENCY
	SHELLS AND HEADS UNDER INTERNAL AND EXTERNAL PRESSURE
	OPENINGS AND REINFORCEMENTS
14:30-14:45	AFTERNOON TEA
14:45-16:30	DESIGN FOR CREEP AND FATIGUE
	DESIGN FOR LOW TEMPERATURE SERVICE
	POST WELD HEAT TREATMENT REQUIREMENTS

DAY 2

TIME	COURSE SUBJECT
08:30-09:30	DESIGN OF BOLTED FLANGED JOINTS
	DESIGN OF VESSEL SUPPORTS
09:30-09:45	MORNING TEA
09:45-12:00	HEAT EXCHANGER DESIGN
	DESIGN OF EXPANSION JOINTS
	VESSELS OF NON-CIRCULAR CROSS-SECTION
12:00-12:30	LUNCH
12:30-14:30	VESSEL FABRICATION
	WELDING, WELDING PROCEDURE AND OPERATOR QUALIFICATIONS
	NON-DESTRUCTIVE EXAMINATION
	CONFORMITY ASSESSMENT
14:30-14:45	AFTERNOON TEA
14:45-16:30	OVERPRESSURE PROTECTION
	MARKING
	PRESSURE TESTING

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DAY 3

TIME	COURSE
08:30-09:30	AS 1210 APPENDICES
	VESSEL REPAIRS
09:30-09:45	MORNING TEA
09:45-12:00	INTRODUCTION TO FINITE ELEMENT ANALYSIS
	OVERVIEW OF AS 1210 APPENDIX H & I / ASME VIII-2 PART 5
	PROTECTION AGAINST PLASTIC COLLAPSE
12:00-12:30	LUNCH
12:30-14:30	PROTECTION AGAINST LOCAL FAILURE
	PROTECTION AGAINST COLLAPSE FROM BUCKLING
	DESIGN OF NOZZLES FOR EXTERNAL LOADS
14:30-14:45	AFTERNOON TEA
14:45-16:30	CYCLIC LOADING AND FATIGUE ANALYSIS
	FEA REPORTING REQUIREMENTS
	FEA MODELLING AND DESIGN PITFALLS
	CONCLUSION