



**Module 2: Materials and their behaviour during welding**

Subject Title	Qualification Level *			
	(Training Hours Part 3+Part 1/Part 1 –Training Hours)			
	IWE	IWT	IWS	IWP
2.1 Manufacture and designation of steels	2/2	2/2	1/1	1/1
2.2 Testing Materials and the weld joint	8/4	8/4	6/2	3/2
2.3 Structure and properties of pure metals	4/4	4/4	2/2	0/0
2.4 Alloys and Phase Diagrams	5/5	5/5	3/3	2/2
2.5 Iron – Carbon Alloys	4/4	4/4	2/2	1/1
2.6 Heat treatment of base materials and welded joints	4/4	4/4	3/2	1/1
2.7 Structure of the welded joint	4/4	4/4	2/2	2/2
2.8 Plain Carbon and Carbon-Manganese Steels	6/4	5/4	2/2	2/2
2.9 Fine - grained steels	4/2	2/2	2/0	1/0
2.10 Thermomechanically controlled process steels (TMCP -steels)	4/4	4/4	2/2	1/1
2.11 Cracking phenomena in welded joints	6/2	4/2	4/0	2/0
2.12 Application of structural and high strength steels	2/0	2/0	1/0	1/0
2.13 Low alloy steels for cryogenic applications	4/0	2/0	1/0	0,5/0
2.14 Low alloy creep resistant steels	4/0	2/0	1/0	0,5/0
2.15 Introduction to corrosion	6/0	2/0	1/0	0/0
2.16 High-alloyed (stainless) steels	8/0	6/0	3/0	2/0
2.17 Introduction to wear	2/0	1/0	0/0	0/0
2.18 Protective layers	4/0	2/0	1/0	0/0
2.19 High alloy creep resistant and heat resistant steels	2/0	1/0	0/0	0/0
2.20 Cast irons and steels	2/0	2/0	1/0	0/0
2.21 Copper and copper alloys	4/0	1/0	1/0	0/0
2.22 Nickel and nickel alloys	4/0	1/0	1/0	0/0
2.23 Aluminium and aluminium alloys	6/0	4/0	2/0	2/0
2.24 Other metals and alloys	2/0	1/0	1/0	0/0
2.25 Joining dissimilar materials	4/0	3/0	2/0	0/0
2.26 Metallographic examinations	6/0	6/0	2/0	0/0
<b>Total</b>	<b>111/39</b>	<b>82/39</b>	<b>47/18</b>	<b>22/12</b>

\* P1 = Part 1, Figures under P1 are given for the Standard Route (see 4.1)