

Directed Study – Welding Simulation for Boiler Components

Name of the Candidate: Mr.V.Sudharsanam

Roll No: 414917003 (Part-time – External)

Syllabus

Introduction to fusion welding processes – Heat flow in welding – Heat source – Analysis of heat flow in welding – Weld thermal simulator.

Solidification concepts – Weld metal solidification: Grain structure, Microstructure within grains- Post solidification phase transformations and cracking.


Fluid flow and metal evaporation in welding – Fluid flow in arcs, weld pools – Metal evaporation – Active flux in GTAW.

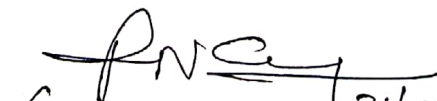
Residual stresses – Distortion – Fatigue on welded components.

Welding metallurgy of Steels and Nickel based alloys – Heat affected zone and weldments in Steels, Nickel based alloys and Stainless steels.


References:

1. Sindo Kou, "Welding Metallurgy", Second ed. John Wiley & Sons, Inc., Publication, 2003.
2. ASM Hand Book. Volume 6A, Welding Fundamentals and Processes, Materials Park, Ohio, USA, 2011.


31/07/2017
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please get the Required approval
for the Syllabus of Directed
Study Course which is herewith attached.
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