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# Observations of repair process by friction stitch welding in simulated wet conditions

——flaws, microstructure and hardness evolutions in overlapping welds

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**Abstract:** The overlapping friction taper plug welding (FTPW) process influences the overlapped welds and bonding quality of the friction stitch weld, therefore, flaws, microstructure and hardness evolutions were observed with the progress of overlapping FTPW process in a simulated wet condition to study the forming mechanism of underwater friction stitch welding. DH36 plugs were used to repair the arc welded DH36 joint. Six burn-off distances (namely consumptions) of plug were chosen to observe the intermediate status of flaws, microstructure and

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