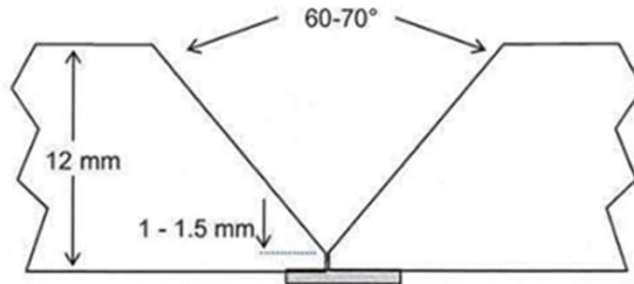


Weld Procedure Specification

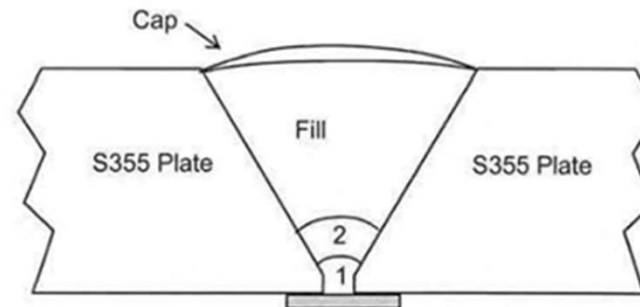
Weld Parameters:

| Run No | Welding Process | Filler Make | Trade Name | Dia (mm) | Spec | Grade | AC/DC | Amps (A) (±10%) | Volts (V) (±10%) | ROL (mm) (±10%) | Heat Input (KJ/mm) ² (±25%) |
|--------|-----------------|-------------|------------|----------|----------|---------|-------|-----------------|------------------|-----------------|--|
| 1 | 111 | Filarc | 88S | 2.5 | AWS A5.5 | E8016-G | DC-Ve | 63-78 | 17-22 | 36-44 | 1.3-2.3 |
| 2 | 111 | Filarc | 88S | 3.2 | AWS A5.5 | E8016-G | DC+Ve | 86-106 | 22-28 | 79-97 | 0.9-1.6 |
| Fill | 111 | Filarc | 88S | 3.2 | AWS A5.5 | E8016-G | DC+Ve | 98-121 | 21-27 | 83-102 | 1.2-2.1 |
| Fill | 111 | Filarc | 88S | 4.0 | AWS A5.5 | E8016-G | DC+Ve | 137-168 | 20-26 | 151-185 | 1.1-2.0 |
| Cap | 111 | Filarc | 88S | 3.2 | AWS A5.5 | E8016-G | DC+Ve | 98-121 | 21-27 | 118-145 | 0.8-1.4 |

Weld Preparation for wrapper long seam:



Typical Weld Sequence:



Wrapper long seam weld does not come into contact with parent pipe.

- Notes:
1. Consumables to be clean/dry and stored as per manufacturer's instructions.
 2. Amps, Voltage and Heat input were recorded during qualification using AMV500 Arc Monitor.
 3. ROL calculated by distance recorded on Arc Monitor during qualification, divided by number of electrodes used per pass.
 4. A *k* factor of 0.8 has been applied to heat input in accordance with EN 1011-1:2009.
 5. Heat input parameters are based on actual min and max values recorded during qualification.