

Parts of a WPS Fact Sheet

Welding takes great skill and knowledge of what is being asked of the welder to create a quality weld. It is important that a welder understands what is involved with a WPS.

Parts of a WPS

The main parts that are common in most WPS:

- **General Information**
 - Tells the welder about where the procedure comes from and who it's for
 - Company information
 - Welding process
 - Identification number
 - How the weld is performed (manual, automatic, semiautomatic, mechanized)
- **Joint Design**
 - Tells the welder about preparation of the welding joint
 - Type of joint design
 - Backing required
 - Specifics about the joint regarding root opening, root face, groove angle, radius of groove, whether back gouging is required
- **Position**
 - Tells the welder what position the joint is to be welded in
 - Position to be welded: this is expressed with a number and a letter
 - The number indicates the position
 - The letter indicates whether it is a fillet or groove joint
- **Electrical Characteristics**
 - Tells the welder about the electrical setup of the welder
 - Transfer Mode for GMAW (short circuit, pulse, spray, globular)
 - Current, or polarity being used (DCEP, DCEN, or AC)
 - Power source (constant current or constant voltage)
- **Base Metals & Filler Metals**
 - Tells the welder what type of metal can be welded on and the matching filler to use
 - Thickness range of the base metal
 - Material specification: all base and filler metals have specification numbers that identify the type of metal
 - Filler metal classification: a number that tells the welder about the filler metal
 - Specifications and classifications for base and filler metals are defined by standardizing organizations. These numbers tell the welder what the metal is and what alloys are present in the metal

- **Shielding**
 - Tells the welder what type of shielding gas or flux is used
 - Type of shielding gas and the composition of a shielding gas mixture
 - Flow rate
 - Where to set the flow meter
 - Gas cup size
 - Even the size of the nozzle is specified!
- **Technique**
 - Tells the welder how to make the weld
 - Stringer or weave bead
 - Number of passes required
 - Contact tube to work distance
 - Interpass cleaning
- **Preheat & Postheat**
 - Tells the welder how to heat the base metal
 - Preheat and interpass temperatures
 - Postweld heat temperature
 - Length of time a postweld heat treatment is held