### Butt Joint
- Joins two members that meet at their edges on the same plane
- Used in applications where a smooth weld face is required
- Fillet or groove welded; groove welding requires added expertise and expense
- Improper design/welding risks distortion and residual stresses

### T-Joint
- Joins two members that meet at a T-shaped angle
- Good mechanical properties, especially when welded from both sides
- Easily welded with little or no joint preparation
- Usually fillet welded, although J-grooves are possible

### Lap Joint
- Joins two members having overlapping surfaces
- Good mechanical properties, especially when welded from both sides
- Usually fillet welded
- Thicker material requires more overlap

### Corner Joint
- Joins two members that meet at an angle
- Two main types: open corner and closed corner
- Easily welded with little or no joint preparation
- Increase travel speed on light-gauge material to avoid burn-through

### Edge Joint
- Joins two parallel, or nearly parallel, members
- Not recommended if either member will be subject to impact or high stresses
- Square groove is most common, but other groove configurations are possible
- Very deep penetration is impossible