

## Characteristics and Applications:

TF-650 is an agglomerated, aluminate basic flux, used with single and-or multiple wire process. It's specifically designed for welding longitudinal and spiral pipe, in two-run and-or multiple layer technique. TF-650 has excellent weld bead performance; a low consumption rate and excellent mechanical properties at low temperature can be achieved.

- Pipe steels up to API-5L X-80
- Non-and low alloyed structural steels
- Fine grain structural steels

## Notes on usage:

1. The flux must be re-dried at a temperature of 300~350°C for 1~2hr holding time when it is affected by moisture pick-up.
2. Adding proper quantity of new flux with the used one to maintain good quality of weld metal.

## Typical chemical composition of weld metal (wt %) :

| Wire    | EN ISO 14171-A    | C    | Si   | Mn   | Mo   | Ni  |
|---------|-------------------|------|------|------|------|-----|
| TSW-E12 | S 42 4 AB S2Mo    | 0.06 | 0.16 | 1.34 | 0.45 | --  |
| TSW-E41 | S 50 4 AB S3Ni1Mo | 0.07 | 0.25 | 1.70 | 0.48 | 0.9 |

## Typical mechanical properties of weld metal:

| Wire | AWS A5.23 | Yield strength<br>MPa(ksi) | Tensile<br>strength<br>MPa(ksi) | Elongation |
|------|-----------|----------------------------|---------------------------------|------------|
|------|-----------|----------------------------|---------------------------------|------------|

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