

GRADE

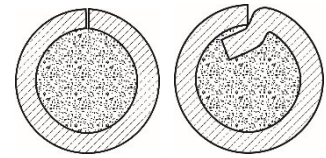
CLASSIFICATION FEATURES

STRUCTURE TYPE

PP-AN163

TU U 28.7-21459234-021:2008

Diameter: 1.6 – 4.0 mm
 Shielding: flux, open arc,
 Ar, Ar + CO₂
 Structure: tubular, overlapping



General description

Flux-cored wire of **PP-AN163** grade is designed for automatic and semi-automatic open-arc, submerged-arc or gas-shielded hardfacing of parts exposed to cyclic loads, corrosion, cavitation erosion, and metal-to-metal friction. It is desirable to perform hardfacing down-hand, using reversed polarity direct current.

Welding process properties

Recommended flux grade	- EFA-1, AN-26S/P, AN-20S/P
Weld formation	- good
Slag separation	- good
Deposit factor, g/A·h	- 14 – 18
Crack susceptibility	- low
Wire consumption, kg	- 1.05 – 1.2
Hardness of weld metal	- HRC 33 – 40

Operating conditions (submerged-arc)

Wire diameter, mm	Current, A	Voltage, V	Deposition rate, m/h
1.6	150 – 230	27 – 30	8 – 15
2.0	180 – 280	29 – 31	10 – 18
2.4	220 – 320	30 – 32	13 – 20
2.8	260 – 380	31 – 33	14 – 22
3.2	300 – 430	32 – 34	15 – 25

Properties of weld metal

The weld metal is highly corrosion-resistant and also resistant to hot and cold cracking. Can be machined by cutting without softening thermal pre-treatment.

Process features

Hardfacing does not require the parts to be pre-heated if carbon content in the base metal does not exceed 0.25%. With the carbon content above 0.25%, it is desirable to pre-heat the part to 250-300°C. Wire diameters up to 2.2 mm can be supplied on metal spools K-300 (15 kg).

Application

Hardfacing of marine shaft collars, stocks, rudder spindles, steel crankshafts, parts of drilling, pumping and oilfield equipment, stems of mining hydraulic fixtures, pilger mill rolls, etc.

