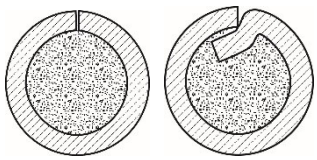
GRADE	CLASSIFICATION FEATURES	STRUCTURE TYPE

PP-Np-45V9H3SF

(Np-45W9CrSiV)

TU U 28.7-21459234-021:2008

Diameter: 1.6 – 4.0 mm
Shielding: flux
Structure: tubular, overlapping



General description

Flux-cored wire of **PP-Np-45V9H3SF** grade is designed for submerged-arc hardfacing of parts exposed to thermal fatigue and substantial relative pressure. It is desirable to perform hardfacing down-hand, using reversed polarity direct current.

Welding process properties

Recommended flux	- **EFA-1**, AN-20S/P, AN-26S/P
Weld formation	- good
Slag separation	- good up to 400°C
Deposit factor, g/A·h	- 10 – 16
Crack susceptibility	- increased
Wire consumption per, kg	- 1.05
Hardness of weld metall	after hardfacing: **HRC 41 – 54** after tempering: 500°C, 2-hour - holding: **HRC 46 – 53** after annealing 800°C, 3-hour holding: **HRC 25 – 30**

Operating conditions (submerged-arc)

Wire diameter, mm	Current, A	Voltage, V	Deposition rate, m/h
1.6	140 – 200	25 – 28	10 – 14
2.0	160 – 240	25 – 29	12 – 17
2.4	200 – 290	26 – 30	15 – 19
2.8	260 – 330	29 – 31	18 – 22
3.2	280 – 380	29 – 33	19 – 23

Properties of weld metall

Excellent friction wear resistance at increased temperatures.
High thermal resistance. Impact resistance: moderate. Cuttability: satisfactory.

Process features

Requires pre-heating and concurrent heating of the parts to 350-400°C.
Hardfacing must be followed by slow cooling at a rate of 40-60°C/h.
Wire diameters up to 2.2 mm can be supplied on metal spools K-300 (15 kg).

Application

Hardfacing of hot pipe and section rolling steel rolls, metal hot-cutting blades, hammer heads, coiler pulling rollers, brake pulleys, etc.