

UTP A 696

Standards :

Material-No.	: I.3348
DIN 8555	: W/MSG 4-GZ-60-S
EN 14700	: S Z Fe4
AWS A5.13	: R Fe 5-A

Wire with properties of high-speed steel

Application field

UTP A 696 is used for the production and repair of tools made of Mo alloyed high-speed steel, such as tools and planing tools, formcutters, broaching tools, reamers, twist drills etc. **UTP A 696** is suitable for the following base materials:

Material-No.	DIN 17007
I.3316	S 9-1-2
I.3333	S 3-3-2
I.3344	S 6-5-3
I.3346	S 2-9-1

A further application field is the production of wear protection coating on non-alloyed or low-alloyed base material.

Special properties of the weld deposit

The weld deposit of **UTP A 696** is equivalent to a high-speed steel with high cutting performance. After cooling the weld deposit is only machinable by grinding. Machining with tungstene carbide tools is only possible after soft-annealing.

Hardness of the pure weld deposit

untreated	:	60 - 64 HRC
soft annealed 800° C	:	approx. 250 HB
hardened 1230° C / oil + tempered 540° C 2 x	:	62 - 66 HRC

Weld metal analysis in %

C	Si	Mn	Cr	Mo	V	W	Fe
1,0	0,2	0,2	4,0	8,5	2,0	1,8	balance

Welding instruction

Preheating to 350 - 650° C, depending on the dimension of the workpiece. This temperature should be maintained during the whole welding process. This stick electrode is weldable with very low amperage settings and subsequent slow cooling to 100° C in an oven or under asbestos.

Heat treatment

hardened	:	1190 - 1240° C, quenchant: oil, warm bath : 450 - 500° C
tempered	:	450 - 500° C, 2 x 1 h, cooling in still air
soft annealed	:	800 - 850° C, 2 - 4 h

Welding procedure and availability

Ø (mm)	Current type	Shielding gas EN ISO 14175					Availability	
		I 1	M 12	M 13	M 21	C 1	Spools EN ISO 544	Rods EN ISO 544
1,2 *	DC (+)		x	x	x	x	x	
1,6	DC (-)	x						x

* available on request