



SWP-Super Free Cutting Mild Steel Steel Black Forest

Material No.	DIN Abbreviation	AFNOR	AISI/SAE/ASTM	ISO	Euro Standard EN	Others
1.0737	9SMnPb36 (11SMnPb37)	S300Pb	AISI ~ 12L14	~ 12SMnPb35	11SMnPb37	

Distinctive feature & main attribute: a non-alloyed free cutting mild steel with sulphur and lead, marked by a high machinability and an easy fragmentation of chips. Due to its high sulphur and phosphorus content it is not destined for heat treatment nor generally recommended for welding.

Use & application range: this material is designated for the automobile industry, appliance construction and apparatus engineering.

REFERENCE ANALYSIS %	C	Si	Mn	P	S	Pb	Fe
	max. 0.14	max. 0.05	1.00 1.50	max. 0.11	0.34 0.40	0.20 0.35	balance

EXECUTION DELIVERY FORM STANDARD SIZES AVAILABILITY	<ul style="list-style-type: none"> • Execution in 3 m round or hexagonal bars as well as in coils for Escomatic • Standard size in stock: see Product range • Other sizes on request
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TOLERANCES	<ul style="list-style-type: none"> • $\varnothing < 10.00$ mm, cold drawn, on request also ground; ISO h8 • $\varnothing > 10.00$ mm, cold drawn, on request also ground; ISO h9 • Tighter tolerances on request • Out of roundness standard: $\frac{1}{2}$ of diameter tolerance
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MECHANICAL PROPERTIES	At delivery status: <ul style="list-style-type: none"> • Tensile strength (R_m): 570 – 820 MPa, size depending
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HEAT TREATMENT	This quality is not made for hardening purposes, unless the carbon content is at the upper limit it is possible to do an edge hardening or nitridization process.
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CUTTING RATES	$v_c \sim 100 - 140$ m/min , value depending on the lubrication oil, cutting tools and shape of parts. <ul style="list-style-type: none"> • Cutting oil: e.g. INOX of Motorex
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