



MICROALLOYED STEELS

Clean Steel
State of the Art Process Technology

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INTRODUCTION

The use of MICRO ALLOYED STEELS (MAS) originally developed for high strength low alloy steel sheets (HSLA) for automobile bodies has shown steady and significant growth in Long products also for manufacture of forged components. The Indian steel manufacturers as well as forged component manufacturers have adapted themselves to manufacture and use MAS components for AUTO sector.

MAS grades not only help in avoiding use of costly alloying elements but also eliminate the need for heat treatment of forged components. Plain carbon steels having closely controlled chemistry (to maintain carbon Equivalent) along with small additions of microalloying elements such as V, Nb and Ti (to promote Precipitation strengthening) can achieve the desired strength levels after forging without heat treatment. Optimum Sulphur levels are maintained to promote machinability.

These steels are covered by EN spec 10267 as general spec, which can be fine tuned to meet specific customer requirements.

Sunflag melting and refining process has capability to meet close range chemistry with help of controlled addition of Microalloying Elements like V, Nb, Ti and special wire injection facilities for sulphur and aluminium addition.

Nitrogen can also be closely maintained in the range of 100 to 200ppm as specified by customer.

MICROALLOYED GRADES BEING PRODUCED

Sr.no.	Grades	End Application
1	C70S6	Fracture splittable connecting rod
2	38MnSiVS5	Crank shaft, Outer ball joint, Inner insert
3	30MnVS6	Housing shaft and socket
4	SAE 11V41	Yoke
5	SAE 1137V	Transmission components
6	MT-15	Link application
7	S48CS1V	Crank shaft
8	S45CS1V	Rack bar
9	38MnVS5	Crank shaft
10	40MnSiVS6	Tubular and spherical rails
11	36MnVS4	Connecting Rod

