

MARTENSITIC STAINLESS STEEL ALLOY FOR
USE WITH SURGICAL NEEDLES

ABSTRACT

A new and useful predictor for maraging stainless steel alloys is created, called the martensite finish temperature, M_f ($^{\circ}\text{F}$). This formula enables one to predict the temperature at which a steel is entirely converted to martensite, and is described as $M_f = 1027 - 78\% \text{ Ni} - 27\% \text{ Ti} - 34\% \text{ Mo}$. A desirable needle alloy for this amount is nickel at 10%, molybdenum at about 2.7%, and titanium at about 2%.

(figure 11)