



AEROSPACE MATERIAL SPECIFICATION	AMS2801™	REV. C
	Issued 1990-07 Reaffirmed 2014-02 Revised 2022-09	
Superseding AMS2801B		
(R) Heat Treatment of Titanium Alloy Parts		

RATIONALE

AMS2801C is the result of a Five-Year Review and update of this specification. Special attention has been given to removing references to raw material.

NOTICE

ORDERING INFORMATION: The following information shall be provided to the heat treating processor by the purchaser.

1. Purchase order and/or purchaser supplied documents shall specify not less than the following:

- AMS2801C
- Quantity of parts
- Size of parts
- Part number
- Material alloy designation of parts
 - Including mill heat/lot number, if applicable
 - Beta transus temperature if it is required to be known for processing
- Heat treat operations required, including
 - Heat treat condition, as defined
 - Heat treatment condition required
 - Tensile requirement, if applicable
 - Minimum touch removal after heat treatment

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- Processing variables not defined or different from the specification
 - Processing temperatures, times, and other parameters
 - Allowance for straightening
 - Post straightening thermal operations requirements
 - Pre-cleaning and post-cleaning requirements
 - Post heat treatment protection requirements
 - Any restriction to options allowed within this specification
- If removal of surface contamination after heat treatment is to be performed by the heat treatment processor (see 3.3.4)
- Surface contamination removal method and parameters if it is to be performed by the heat treatment processor
- Additional ordering information as required

1. SCOPE

1.1 Purpose

This specification establishes the engineering requirements for the heat treatment of titanium and titanium alloy parts. Heat treatment of raw material by raw material producers, forge shops, or foundries shall be in accordance with the material procurement specification AMS-H-81200.

1.2 Heat Treatments

Heat treatments covered by this specification are stated in Table 1:

Table 1 - Applicable heat treatments

Anneal Stress Relief Over Age Cold Worked and Aged	Beta Solution Treated and Overaged Solution Treat Beta Solution Treat Solution Treat and Age Solution Treat and Over Age

1.3 Alloys

Titanium and titanium alloys covered by this specification are stated in Table 2:

Table 2 - Titanium and titanium alloys

Commercially Pure	Alpha alloys	Alpha-Beta alloys	Beta alloys
Ti40	5Al-2.5Sn	6Al-4V	13V-11Cr-3Al
Ti55	5Al-2.5Sn ELI	6Al-4V ELI	3Al-8V-6Cr-4Mo-4Zr
Ti70	6Al-2Cb-1Ta-0.8Mo 8Al-1Mo-1V	6Al-6V-2Sn 3Al-2.5V 6Al-2Sn-4Zr-2Mo 6Al-2Sn-4Zr-6Mo	15V-3Al-3Cr-3Sn 10V-2Fe-3Al