


CONFORMANCE GUIDELINES

INSPECTION / EVALUATION GAGING SYSTEMS FOR EXTERNAL & INTERNAL SCREW THREAD CHARACTERISTICS

Characteristic	ASME B1.3	System 21	System 22	System 23
	(SAE) AS-8879		Category 1	Category 2
	MIL-S-8879C		Other Thread	Safety Critical Thread
	MIL-S-8879A	Method A	Method B	Method C
	FED-STD-H28/20B	System 21	System 22	System 23
Major Diameter	Shall meet the specified dimensional requirements over the length of full thread			
Functional Diameter (Maximum Material) for interchangeable assembly	Shall be within the specified dimensional requirements within the length of standard gaging elements or component assembly length. (i.e., the material envelope form at or between maximum and minimum pitch diameter)			
Pitch Diameter (Minimum Material) Groove Diameter (Minimum Material)	 Not Required		Shall be within the specified dimensional requirements over the length of full thread	
Lead			Establishing conformance of a product thread for both functional and pitch / groove diameter also establishes that the combined effects of variations in lead, flank angle, circularity (roundness), taper, and runout are within limits.	In addition to establishing conformance of a product thread for both functional and pitch / groove diameter, deviations in lead, flank angle, circularity (roundness), taper and runout are each subject to specific magnitude and direction within specified pitch diameter dimensional requirements.
Flank Angle				
Circularity				
Taper				
Functional Diameter (NOT GO / LO)	Shall be within the specified dimensional requirements	Not Applicable		
Minor Diameter	Shall meet the specified dimensional requirements over the length of full thread			
Root Radius – when required	Shall meet the specified dimensional requirements over the length of full thread			
Incomplete Lead & Runout Threads, Surface Roughness & Runout	Shall be as per product requirement			