

CRITICAL DESIGN INFORMATION

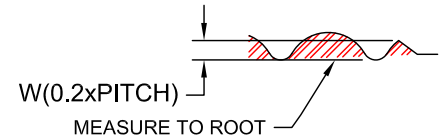
**START EVERY DESIGN BY FINDING "Lnom"**

IF "Lnom" IS NOT GIVEN ON THE CUSTOMER DRAWING, USE EITHER THE MAXIMUM LENGTH (Mmax) OR MINIMUM FULL THREAD LENGTH (Lf) FROM THE CUSTOMER DRAWING TO CALCULATE IT USING ONE OF THE FOLLOWING EQUATIONS

PREFERRED:  $L_{nom} = M_{max} - Z_4 - T$   
 SECONDARY:  $L_{nom} = L_f + U + T$

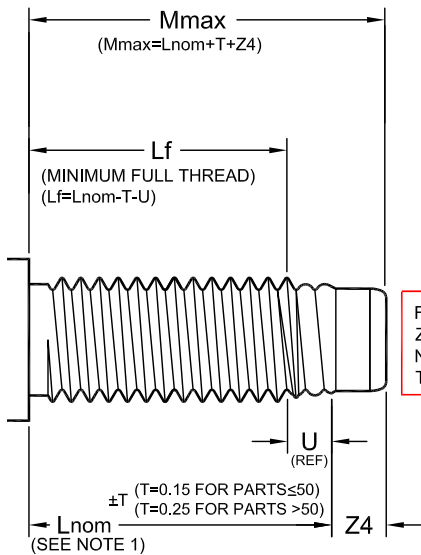
T = 0.15 FOR PARTS WITH Mmax LESS THAN OR EQUAL TO 50mm  
 T = 0.25 FOR PARTS WITH Mmax GREATER THAN 50mm

**Lnom MUST BE ON EVERY PART DRAWING**  
**DO NOT CHANGE ANY DIMENSION GIVEN WITHOUT CONSULTING MATHREAD**

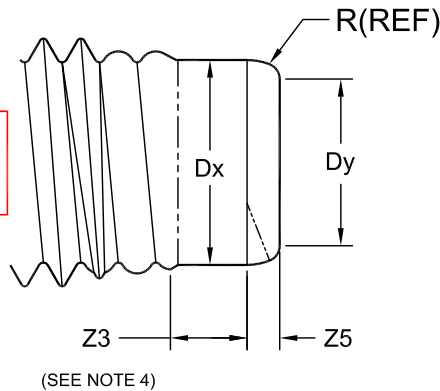


INSPECTION INFORMATION:

1. Lnom ON ROLLED PART IS MEASURED TO THE POINT ON THE LEAD THREAD WHERE IT FIRST REACHES A HEIGHT OF 'W' (0.2xPITCH) WHEN MEASURED FROM THE ROOT OF THE THREAD. (see sketch above)
2. MATpoint SHALL HAVE A MINIMUM OF 1.0 COMPLETE TURN OF RADIUSED THREAD. THREAD MUST BE FULLY FORMED, WITH NO UNDER FILL (FLATS, FISSURES) AT PEAK OF THREAD. WHEN VIEWED IN THE DESIGNATED INSPECTION POSITION, THREE COMPLETE RADIUSED THREAD PROFILES MUST BE VISIBLE.
3. APPROPRIATE "GO" GAGE MUST COMPLETELY PASS OVER MATpoint SECTION OF THREAD WITH MINIMAL DRAG BEFORE PLATING. GAGE MUST HAVE MINOR DIAMETER VERIFIED TO ANSI/ASME B1.16-1984 BEFORE USE.
4. "Z3" MUST BE MEASURED TO TANGENT POINT OF 'R', USING MATHread APPROVED RADIUS CHART FROM POINT "W" TO TANGENT



FINISHED PART DIMENSIONS Z5, Z3, Dx, & U MUST NOT BE USED TO DESIGN THE BLANK!



THREAD SIZE & PITCH	R REF	Dy MAX	W +.01 -0.01	Dx	Z <sub>3</sub> MIN	Z <sub>4</sub> MAX	Z <sub>5</sub> MIN	U REF	
COARSE THREAD	M4x.7	1.20	2.7	0.14	3.170 3.098	1.20	2.40	0.50	1.50
	M5x.8	1.50	3.4	0.16	4.030 3.954	1.30	2.50	0.60	1.80
	M6x1.0	1.80	4.0	0.20	4.800 4.724	1.50	2.85	0.75	2.30
	M8x1.25	2.30	5.5	0.25	6.540 6.447	2.10	3.90	1.00	2.80
	M10x1.5	2.80	6.8	0.30	8.230 8.143	2.60	4.65	1.25	3.40
	M12x1.75	3.30	8.2	0.35	9.950 9.880	3.15	5.65	1.50	4.00
FINE THREAD	M14x2.0	4.10	9.6	0.40	11.720 11.604	3.68	6.43	1.75	4.50
	M16x2.0	4.70	10.9	0.40	13.720 13.609	4.10	7.10	2.00	4.50
	DIMENSIONS ARE IN MILLIMETERS (mm)								
	M8x1.0	2.50	6.0	0.20	6.810 6.724	2.10	3.90	1.00	2.30
	M10x1.25	3.00	7.5	0.25	8.540 8.447	2.60	4.85	1.25	2.80
	M12x1.5	3.50	8.8	0.30	10.260 10.143	3.15	6.00	1.50	3.40
M14x1.5	4.30	10.8	0.30	12.260 12.143	3.68	6.55	1.75	3.40	
M16x1.5	4.90	12.8	0.30	14.260 14.143	4.10	7.20	2.00	3.40	

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