INTERNATIONAL INCORPORATED

Ę

R

EXCLUSIVE PROPERTY

뿔 ARE

REPRESENTED THEREBY

SERVICE

TECHNICAL DATA AND ENGINEERING

摧

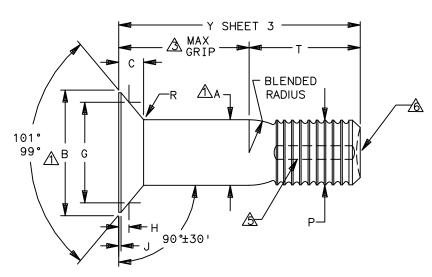
٩

THEREIN

Howmet Fastening Systems Carson Operations 900 E. Watson Center Road Carson, California 90745 U.S.A.

Phone (310) 830-8200 HFS Carson Engineering@howmet.com **Howmet Fastening Systems Us Operations** Clos D' Asseville BP 30004 95450 Us Par Vigny France

Phone +33-1-30.27.95.00 +33-1-34.66.06.00 ENGINEERING STANDARD



GP FAMILY NUMBER	NOM SIZE	A SHANK DIA COATED ±.0005	B THEO INTER DIA MAX	C HEAD HEIGHT MAX	G GAGE DIA ±.0001	GA HEI MAX	•	J MAX	P DIA MAX	R RAD ±.005	s A	T REF
GPS8TC-DT05-()	.164	.1630	. 332	.073	. 2831	. 0202	.0175	.010	. 156	.020	.0045	. 288
GPS8TC-DT06-()	.190	.1890	. 383	. 084	. 3271	.0230	.0200	.013	.184	.025	.0045	. 333
GPS8TC-DT08-()	. 250	.2490	.510	. 110	. 4319	.0322	.0288	.017	.244	.025	.0045	. 417
GPS8TC-DT10-()	.312	.3115	.637	. 137	. 5450	. 0378	. 0342	.020	. 306	. 035	.0045	.534
GPS8TC-DT12-()	. 375	. 3740	. 765	.165	. 6581	.0439	.0401	.023	. 370	. 035	.0060	.600

A CONCENTRICITY: CONICAL SURFACE OF COUNTERSUNK HEAD TO "A" DIAMETER TO BE WITHIN .005 TIR.

SHANK STRAIGHTNESS: WITHIN "S" VALUES TIR PER INCH OF SHANK LENGTH.

FULL CYLINDRICAL PORTION OF THE SHANK.

DIMENSION B AND C FOR ENGINEERING REFERENCE ONLY, NOT FOR INSPECTION PURPOSES

🚵 END MAY BE FLAT OR CUPPED. IF CUPPED CHECK "Y" LENGTH TO FLAT AREA OF CUP.

MATERIAL: 8740 ALLOY STEEL

MINIMUM SHEAR STRENGTH: 95 KSI.

SURFACE TEXTURE: Ra MAX PER ANSI-B46.1 BEFORE COATING. CONICAL SURFACE OF HEAD,

HEAD TO SHANK FILLET RADIUS, SHANK AND TRANSITION RADIUS, -32,

OTHER SURFACES -125.

PROCUREMENT SPECIFICATION: NAS1413 ◎1978-2021 HUCK INTERNATIONAL, INC., ALL RIGHTS RESERVED. GP IS A TRADEMARK OF HUCK INTERNATIONAL, INC. AND ITS SUBSIDIARIES.

DH DRAWN BY HJ CHECKED BY

DIMENSIONS IN INCHES FSCM (Cage Code) 17446 - Carson FSCM (Cage Code) F6167 - France

REVISED COMPANY LOGO & UPDATED TRADEMARK INFORMATION.(REF. ECR2779)

DRAW	ISSUED	09/19/78	STUMP, GROOVE PROPORTIONED GP [†]
<u>s</u> [REVISED	08/10/21	SWAGE LOCKING - TENSION 100° FLUS
₹ [PAGE	1 OF 3	8740 ALLOY STEEL. (95 KSI SHEA

SH HEAD AR)

GPS8TC-DT()-() **GPL119**

B2

DISCLOSED DESIGN STRUCTURAL 摧 Howmet Fastening Systems Carson Operations 900 E. Watson Center Road Carson, California 90745 U.S.A.

Phone (310) 830-8200 HFS Carson Engineering@howmet.com Howmet Fastening Systems Us Operations Clos D' Asseville BP 30004 95450 Us Par Vigny France

Phone +33-1-30.27.95.00

+33-1-34.66.06.00

ENGINEERING STANDARD

FINISH: NO LETTER = CADMIUM PLATE PER QQ-P-416 TYPEII CLASS 2, PLUS CHLORINE FREE CETYL ALCOHOL

HEAD MARKING: HEADS SHALL BE MARKED WITH THE MANUFACTURER'S SYMBOL, BASIC NUMBER (GP8), DEPRESSED .010 MAX, ARRANGEMENT OPTIONAL. FOR STUMPS REQUIRING A SEALANT ESCAPE GROOVE, A DOT (.) MARK WILL ALSO BE INCLUDED ON THE HEAD IDENTIFICATION.

CODING: THE FIRST SET OF LETTERS DESIGNATE THE FAMILY OF GROOVE PROPORTIONED STUMPS FOR AEROSPACE APPLICATIONS (GPS).

THE SECOND SET OF LETTERS & NUMBER 8TC DESIGNATE HEAD SIZE, STYLE, AND LOAD APPLICATION.

THE NEXT LETTER "DT", IS THE MATERIAL DESIGNATOR FOR 8740 ALLOY STEEL MIN SHEAR STRENGTH: 95 KSI.

THE NUMBERS FOLLOWING THE MATERIAL DESIGNATE THE NOMINAL PIN SHANK DIAMETER IN .0312 INCH INCREMENTS.

THE FINAL NUMBER(S) DESIGNATES THE GRIP LENGTH NUMBER OR THE NOMINAL PIN SHANK LENGTH IN .0625 INCH INCREMENTS.

EXAMPLE: (H)GPS8TC-DT08-06

GRIP LENGTH IN .0625 INCH INCREMENTS.

SHANK DIA IN .0312 INCH INCREMENTS

MATERIAL - 8740 ALLOY STEEL

LARGE 100° HEAD FOR TENSION APPLICATIONS
FAMILY OF GP STUMPS FOR AEROSPACE APPLICATIONS

ADD "H" PREFIX TO PART NUMBER TO INCLUDE

SEALANT ESCAPE GROOVE.

MECHANICAL PROPERTIES							
GP STUMP PART NUMBER	NOM SIZE	MINIMUM DOUBLE SHEAR POUNDS	COLLAR PART NUMBER	MIN ULTIMATE TENSILE LBS WITH LISTED COLLARS	PIN POSITION SWAGE GAGE		
GPS8TC-DT05-()	.164	4010	2TCC-C05 2TC-C05	2180	HG109-05		
GPS8TC-DT06-()	. 190	5380	2TCC-C06 2TC-C06	2750	HG109-06		
GPS8TC-DT08-()	. 250	9300	2TCC-C08 2TC-C08	5000	HG109-08		
GPS8TC-DT10-()	.312	14600	2TCC-C10 2TC-C10	8300	HG109-10		
GPS8TC-DT12-()	. 375	21000	2TCC-C12 2TC-C12	12700	HG109-12		

DIMENSIONS IN INCHES

<u>.</u>	B ₂ REVISED	COMPANY LOGO & UPDATE	D TRADEMARK INFORMATION.(REF. ECR2779)		
I II V	ISSUED	09/19/78	STUMP. GROOVE PROPORTIONED GP™	GPS8TC-DT()-()	
<u> </u>	REVISED	08/10/21	SWAGE LOCKING - TENSION 100° FLUSH HEAD		
	PAGE	2 OF 3	8740 ALLOY STEEL. (95 KSI SHEAR)	GPL119	

INCORPORATED INTERNATIONAL Ę R EXCLUSIVE PROPERTY 뿔 ARE REPRESENTED SERVICE **ENGINEERING** TECHNICAL DATA AND 뿔 THEREIN AND DISCLOSED DESIGN STRUCTURAL 摧 DRAWING, THIS



Howmet Fastening Systems Carson Operations 900 E. Watson Center Road Carson, California 90745 U.S.A.

Phone (310) 830-8200 HFS_Carson_Engineering@howmet.com Howmet Fastening Systems Us Operations Clos D' Asseville BP 30004 95450 Us Par Vigny France

Phone +33-1-30.27.95.00 Fax +33-1-34.66.06.00 GP[™] ENGINEERING STANDARD

	GRIP NUMBER TABULATION								
GRIP	MINIMUM PERMIS-		N GRIP ANGE	MAXIMUM PERMIS-	05	06	08	10	12
DASH NO.	SIBLE GRIP			SIBLE GRIP	Y	Y	Y	Y	Y
	OVERLAP	MIN	MAX	OVERLAP	±.010	±.010	±.010	±.010	±.010
02	.047	.063	.125	.141	. 413		205	700	
03 04	.109 .172	. 126 . 189	.188 .250	.203	. 476 . 538	. 583	.605 .667	.722 .784	. 850
05	. 234	. 251	.312	. 328	.600	.645	.729	.846 	.912
06 07	.297 .359	. 313 . 376	. 375 . 438	. 391	.663 .726		.792 .855	.909 .972	.975 1.038
08 09	. 422 . 484	. 439 . 501	.500 .562	.516 .578	. 788 . 850		.917 .979	1.034 1.096	l
10	.547	.563	.625	.641	.913		1.042	1.159	1.225
11	. 609	. 626	.688	.703		1.021	1.105	l	1
12 13	. 672 . 734	. 689 . 751	.750 .812	.766 .828	1.100	1.083 1.145	1.167 1.229	1.284 1.346	1.412
14 15	.797 .859	.813 .876	. 875 . 938	.891 .953		1.208 1.271	1.292 1.355	1	l
16	.922	. 939	1.000	1.016		1.333	1.417	l	
17 18	.984 1.047	1.001 1.063	1.062 1.125	1.078 1.141		1.395 1.458	1.479 1.542	1.596 1.659	
19 20	1.109 1.172	1.126 1.189	1.188 1.250	1.203 1.266		1.521 1.583	1.605 1.667	1.722 1.784	1
21	1.234	1.251	1.312	1.328		1.645	1.729	1	1
22 23	1.297	1.313 1.376	1.375 1.438	1.391		1.708	1.792 1.855	1.909 1.972	l
24 25	1.422 1.484	1.439 1.501	1.500 1.562	1.516 1.578		1.833	1.917 1.979		2.100 2.162
26	1.547	1.563	1.625	1.641	1.913	1.958	2.042	2.159	2.225
27 28	1.609	1.626	1.688	1.703	1.976	2.021		2.222	2.288
29	1.734	1.751	1.812	1.828	2.100	2.145	2.229	2.346	2.412
30	1.797	1.813	1.875	1.891		2.208		2.409	
31 32	1.859 1.922	1.876 1.939	1.938 2.000	1.953 2.016		2.271	2.355 2.417		l

DIMENSIONS IN INCHES

, or	B ₂ REVISED	COMPANY LOGO & UPDATE				
1	ISSUED	07/17/18	STUMP. GROOVE PROPORTIONED GP™	GPS8TC-DT()-()		
6	REVISED	08/10/21	SWAGE LOCKING - TENSION 100° FLUSH HEAD			
=	PAGE	3 OF 3	8740 ALLOY STEEL. (95 KSI SHEAR)	GPL119		

THIS DRAWING, THE STRUCTURAL DESIGN DISCLOSED THEREIN AND THE TECHNICAL DATA AND ENGINEERING SERVICE REPRESENTED THEREBY ARE THE EXCLUSIVE PROPERTY OF HUCK INTERNATIONAL INCORPORATED.