



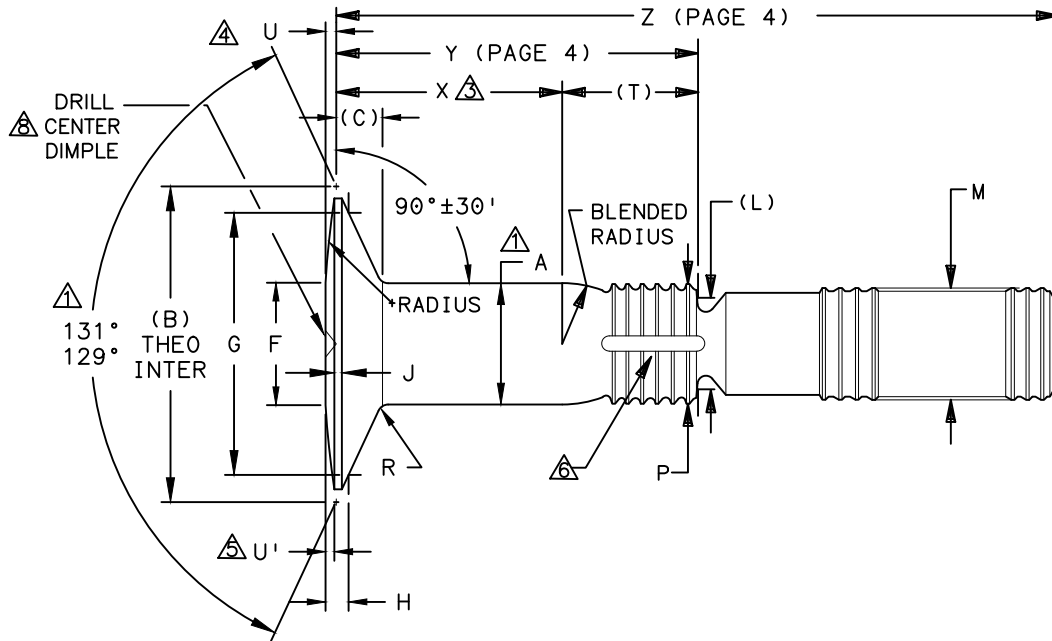
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LGP®
Composite
ENGINEERING
STANDARD



LGP PIN FAMILY NUMBER	NOM SIZE	A SHANK DIA +.0005 -.0000	A SHANK DIA COATED ±.0005	(B) THEO DIA NOM	(C) HEAD HEIGHT NOM	F FLAT DIA ±.0100	G GAGE DIA ±.0001	H GAGE HEIGHT		J MAX	(L) REF	M MAX	P DIA MAX	R RAD ±.005	S △	T REF	U ±.0010	U' REF
								MAX	MIN									
(H)LGPL9SC-V05B()	.1640	.1630	.1630	.3280	.0385	.1250	.2559	.0263	.0235	.010	.126	.156	.156	.020	.0045	.175	.0081	.0065
(H)LGPL9SC-V06B()	.1900	.1890	.1890	.3816	.0449	.1560	.2981	.0257	.0225	.013	.150	.184	.184	.025	.0045	.176	.0046	.0035
(H)LGPL9SC-V07B()	.2187	.2177	.2177	.4398	.0518	.1720	.3314	.0323	.0288	.015	.173	.213	.213	.025	.0045	.244	.0052	.0040
(H)LGPL9SC-V08B()	.2500	.2490	.2490	.5009	.0587	.1900	.4049	.0301	.0263	.017	.187	.244	.244	.025	.0045	.244	.0058	.0045
(H)LGPL9SC-V10B()	.3125	.3115	.3115	.5921	.0654	.2500	.4790	.0350	.0308	.020	.244	.306	.306	.035	.0045	.313	.0065	.0050
(H)LGPL9SC-V12B()	.3750	.3740	.3740	.6969	.0753	.3120	.5941	.0343	.0293	.023	.298	.370	.370	.035	.0060	.374	.0078	.0060
(H)LGPL9SC-V14B()	.4375	.4365	.4365	.8403	.0941	.3750	.7241	.0379	.0325	.023	.312	.431	.431	.045	.0060	.437	.0081	.0065
(H)LGPL9SC-V16B()	.5000	.4990	.4990	.9458	.1042	.4380	.8011	.0447	.0387	.023	.375	.492	.492	.045	.0060	.503	.0080	.0065

PROCUREMENT SPECIFICATION: C2022

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DIMENSIONS IN INCHES

DRAWN BY	DH	FSCM (Cage Code) 17446 - Carson FSCM (Cage Code) F6167 - France
CHECKED BY	MM	

C10 REF ECR 3455; REVISED FINISH CODE DESCRIPTIONS FOR ALUMINUM COATING, ADDED
PERMISSIBLE ALUMINUM COATING TABLE, ADDED K61123ZA AS A PERMISSIBLE COATING

ISSUED	07/01/81	PIN, COMPOSITE APPLICATIONS, LIGHTWEIGHT HUCKCOMP LGP, SHEAR TYPE, 130° COUNTERSUNK HEAD, SWAGE LOCKING, 6AL-4V TITANIUM. (95 KSI SHEAR)	(H)LGPL9SC-V()B()
REVISED	04/24/26		
PAGE	1 OF 5		COM103

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- ① CONCENTRICITY: CONICAL SURFACE OF COUNTERSUNK HEAD TO "A" DIAMETER TO BE WITHIN .005 TIR.
② SHANK STRAIGHTNESS: WITHIN "S" VALUES TIR PER INCH OF SHANK LENGTH.
③ GRIP LENGTH IS MEASURED FROM THE THEORETICAL INTERSECTION OF CROWN RADIUS AND HEAD ANGLE TO THE END OF THE FULL CYLINDRICAL PORTION OF THE SHANK.
④ DIMENSIONS (B), (C), U, Y AND Z ARE MEASURED FROM THE THEORETICAL INTERSECTION OF CROWN RADIUS AND HEAD ANGLE.
⑤ DIMENSION U' IS MEASURED AT TOP OF "J" LAND.
⑥ SEALANT ESCAPE GROOVE (SEE PAGE 2).
⑦ DIMENSIONS (B), (C) AND U' ARE FOR ENGINEERING REFERENCE ONLY AND ARE NOT TO BE USED FOR INSPECTION PURPOSES.
⑧ DRILL CENTER DIMPLE IN TOP OF HEAD .035 MAX DIA, .010 MAX DEPTH AND CONCENTRIC TO "A" WITHIN .008.

MATERIAL: 6AL-4V TITANIUM ALLOY PER AMS4967.
MINIMUM SHEAR STRENGTH: 95 KSI.
SURFACE TEXTURE: Ra MAX PER ANSI/ASME B46.1 BEFORE COATING. CONICAL SURFACE OF HEAD, HEAD TO SHANK FILLET RADIUS, SHANK AND TRANSITION RADIUS, -32, OTHER SURFACES -125.

FINISH:

PERMISSIBLE ALUMINUM COATINGS	
ALUMINUM COATING NAME	COATING SPECIFICATIONS
HI-KOTE™ 1	NAS4006 EN4473 TYPE I
HI-KOTE™ 1 NC	NAS4006NC EN4473 TYPE II
KAL-GARD 2240C	NAS4006
KAL-GARD 2242	NAS4006NC
KAL-GARD 2245	NAS4006 EN4473 TYPE I
KG1123ZA	NAS4006NC EN4473 TYPE II

SUFFIX "AC" = ALUMINUM COATING PER NAS4006 OR NAS4006NC, OPTIONAL ON PINTAIL END. PLUS CETYL ALCOHOL LUBE PER AS87132.
SUFFIX "AD" = ALUMINUM COATING PER EN4473 TYPE I OR EN4473 TYPE II, OPTIONAL ON PINTAIL END. OPTIONAL TO COLOR PINTAIL END WHITE. PLUS CETYL ALCOHOL LUBE PER AS87132.
SUFFIX "AS" = SULFURIC ACID ANODIZE (BLUE) PER ISO 8080 PLUS CETYL ALCOHOL LUBE PER AS87132.
SUFFIX "B" = UNCOATED PIN AND NO LUBRICATION
SUFFIX "D" = ION VAPOR DEPOSITED ALUMINUM COATING PER MIL-DTL-83488 TYPE II CLASS 3, OPTIONAL TO COLOR PINTAIL END BLACK, PLUS CETYL ALCOHOL LUBE PER AS87132.
SUFFIX "EP" = PHOSPHATE FLUORIDE PER BAC5861.
SUFFIX "EPR" = PHOSPHATE FLUORIDE PER BAC5861 WITH RED IDENTIFICATION DYE ON PINTAIL END, PLUS CETYL ALCOHOL LUBE PER AS87132.
SUFFIX "PB" = POWDERED BLAST TOP SURFACE OF HEAD PLUS CETYL ALCOHOL LUBE PER AS87132 (Ra 50/80 SURFACE ROUGHNESS).
NO LETTER = UNCOATED PIN PLUS CETYL ALCOHOL LUBE PER AS87132.

DIMENSIONS IN INCHES

C10 REF ECR 3455; REVISED FINISH CODE DESCRIPTIONS FOR ALUMINUM COATING, ADDED
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ISSUED	07/01/81	PIN, COMPOSITE APPLICATIONS, LIGHTWEIGHT HUCKCOMP LGP, SHEAR TYPE, 130° COUNTERSUNK HEAD, SWAGE LOCKING, 6AL-4V TITANIUM. (95 KSI SHEAR)	(H)LGPL9SC-V()B()
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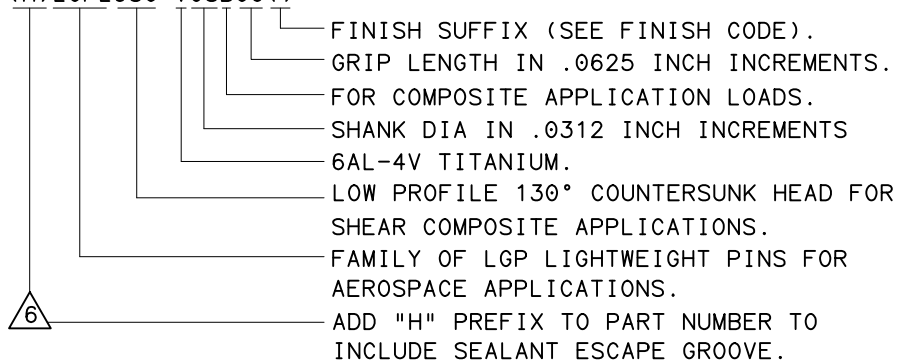
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HEAD MARKING: HEADS SHALL BE MARKED WITH THE MANUFACTURER'S SYMBOL, THE BASIC NUMBER (LGP9) AND VB DEPRESSED .006 MAX DEPTH ARRANGEMENT OPTIONAL, FOR PINS REQUIRING A SEALANT ESCAPE GROOVE, AN "H" WILL BE INCLUDED ON THE HEAD IDENTIFICATION CALLOUT.

CODING: THE FIRST SET OF LETTERS DESIGNATE THE FAMILY OF LIGHTWEIGHT GP PINS FOR SHEAR APPLICATION (LGPL).
THE SECOND SET OF LETTERS & NUMBER 9SC DESIGNATE HEAD SIZE, STYLE, AND LOAD APPLICATION.
THE NEXT LETTER "V", IS THE MATERIAL DESIGNATOR FOR 6AL-4V TITANIUM ALLOY, MIN SHEAR STRENGTH: 95 KSI.
THE NUMBERS FOLLOWING THE MATERIAL DESIGNATE THE NOMINAL PIN SHANK DIAMETER IN .0312 INCH INCREMENTS.
THE LETTER "B" REPRESENTS COMPOSITE APPLICATION LOADS.
THE FINAL NUMBERS DESIGNATE THE GRIP LENGTH NUMBER OR THE NOMINAL PIN SHANK LENGTH IN .0625 INCH INCREMENTS.
SEE FINISH CODE FOR SUFFIX INFORMATION.

PART NUMBER
EXAMPLE:

(H)LGPL9SC-V08B06()



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REVISED	04/24/26		
PAGE	3 OF 5		COM103

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MECHANICAL PROPERTIES						STANDARD COMPOSITE APPLICATIONS
LGP PIN PART NUMBER	PIN NOM SIZE	MINIMUM DOUBLE SHEAR POUNDS	COLLAR PART NUMBER	MIN ULTIMATE TENSILE LBS WITH LISTED COLLAR	PIN POSITION SWAGE GAGE	
(H)LGPL9SC-V05B()()	.1640	4010	SLFC-MV05	1500	HG118-05	
(H)LGPL9SC-V06B()()	.1900	5380	SLFC-MV06	1900	HG118-06	
(H)LGPL9SC-V07B()()	.2187	7200	SLFC-MV07	.2250	HG118-07	
(H)LGPL9SC-V08B()()	.2500	9300	SLFC-MV08	3450	HG118-08	
(H)LGPL9SC-V10B()()	.3125	14600	SLFC-MV10	6000	HG118-10	
(H)LGPL9SC-V12B()()	.3750	21000	SLFC-MV12	8000	HG118-12	
(H)LGPL9SC-V14B()()	.4375	28600	SLFC-MV14	12100	HG118-14	
(H)LGPL9SC-V16B()()	.5000	37300	SLFC-MV16	15300	HG118-16	

MECHANICAL PROPERTIES						OPTIONAL COMPOSITE/METALLIC APPLICATIONS
LGP PIN PART NUMBER	PIN NOM SIZE	MINIMUM DOUBLE SHEAR POUNDS	COLLAR PART NUMBER	MIN ULTIMATE TENSILE LBS WITH LISTED COLLAR	PIN POSITION SWAGE GAGE	
(H)LGPL9SC-V05B()()	.1640	4010	3SLC-C05	1400	HG131-05	
(H)LGPL9SC-V06B()()	.1900	5380	3SLC-C06	1600	HG131-06	
(H)LGPL9SC-V07B()()	.2187	7200	3SLC-C07	2250	HG131-07	
(H)LGPL9SC-V08B()()	.2500	9300	3SLC-C08	3000	HG131-08	
(H)LGPL9SC-V10B()()	.3125	14600	3SLC-C10	5000	HG131-10	
(H)LGPL9SC-V12B()()	.3750	21000	3SLC-C12	7000	HG131-12	
(H)LGPL9SC-V14B()()	.4375	28600	3SLC-C14	9500	HG131-14	
(H)LGPL9SC-V16B()()	.5000	37300	3SLC-C16	12500	HG131-16	

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GRIP NUMBER TABULATION

GRIP DASH NO.	PERMISSIBLE MINIMUM GRIP OVERLAP	DESIGN GRIP RANGE		PERMISSIBLE MAXIMUM GRIP OVERLAP	X ±.005	05		06		07		08		10		12		14		16	
		MIN	MAX			Y ±.010	Z +.060 -.000	Y ±.010	Z +.060 -.000	Y ±.010	Z +.060 -.000	Y ±.010	Z +.060 -.000	Y ±.010	Z +.060 -.000	Y ±.010	Z +.060 -.000	Y ±.010	Z +.060 -.000	Y ±.010	Z +.060 -.000
02	.047	.063	.125	.141	.125	.300	.827	.301	.899	—	—	—	—	—	—	—	—	—	—	—	—
03	.109	.126	.188	.203	.188	.363	.890	.364	.962	.432	1.032	.432	1.085	.501	1.199	—	—	—	—	—	—
04	.172	.189	.250	.266	.250	.425	.952	.426	1.024	.494	1.094	.494	1.147	.563	1.261	.624	1.391	.687	1.559	.753	1.715
05	.234	.251	.312	.328	.312	.487	1.014	.488	1.086	.556	1.156	.556	1.209	.625	1.323	.686	1.453	.749	1.621	.815	1.777
06	.297	.313	.375	.391	.375	.550	1.077	.551	1.149	.619	1.219	.619	1.272	.688	1.386	.749	1.516	.812	1.684	.878	1.840
07	.359	.376	.438	.453	.438	.613	1.140	.614	1.212	.682	1.282	.682	1.335	.751	1.449	.812	1.579	.875	1.747	.941	1.903
08	.422	.439	.500	.516	.500	.675	1.202	.676	1.274	.744	1.344	.744	1.397	.813	1.511	.874	1.641	.937	1.809	1.003	1.965
09	.484	.501	.562	.578	.562	.737	1.264	.738	1.336	.806	1.406	.806	1.459	.875	1.573	.936	1.703	.999	1.871	1.065	2.027
10	.547	.563	.625	.641	.625	.800	1.327	.801	1.399	.869	1.469	.869	1.522	.938	1.636	.999	1.766	1.062	1.934	1.128	2.090
11	.609	.626	.688	.703	.688	.863	1.390	.864	1.462	.932	1.532	.932	1.585	1.001	1.699	1.062	1.829	1.125	1.997	1.191	2.153
12	.672	.689	.750	.766	.750	.925	1.452	.926	1.524	.994	1.594	.994	1.647	1.063	1.761	1.124	1.891	1.187	2.059	1.253	2.215
13	.734	.751	.812	.828	.812	.987	1.514	.988	1.586	1.056	1.656	1.056	1.709	1.125	1.823	1.186	1.953	1.249	2.121	1.315	2.277
14	.797	.813	.875	.891	.875	1.050	1.577	1.051	1.649	1.119	1.719	1.119	1.772	1.188	1.886	1.249	2.016	1.312	2.184	1.378	2.340
15	.859	.876	.938	.953	.938	1.113	1.640	1.114	1.712	1.182	1.782	1.182	1.835	1.251	1.949	1.312	2.079	1.375	2.247	1.441	2.403
16	.922	.939	1.000	1.016	1.000	1.175	1.702	1.176	1.774	1.244	1.844	1.244	1.897	1.313	2.011	1.374	2.141	1.437	2.309	1.503	2.465
17	.984	1.001	1.062	1.078	1.062	1.237	1.764	1.238	1.836	1.306	1.906	1.306	1.959	1.375	2.073	1.436	2.203	1.499	2.371	1.565	2.527
18	1.047	1.063	1.125	1.141	1.125	1.300	1.827	1.301	1.899	1.369	1.969	1.369	2.022	1.438	2.136	1.499	2.266	1.562	2.434	1.628	2.590
19	1.109	1.126	1.188	1.203	1.188	1.363	1.890	1.364	1.962	1.432	2.032	1.432	2.085	1.501	2.199	1.562	2.329	1.625	2.497	1.691	2.653
20	1.172	1.189	1.250	1.266	1.250	1.425	1.952	1.426	2.024	1.494	2.094	1.494	2.147	1.563	2.261	1.624	2.391	1.687	2.559	1.753	2.715
21	1.234	1.251	1.312	1.328	1.312	1.487	2.014	1.488	2.086	1.556	2.156	1.556	2.209	1.625	2.323	1.686	2.453	1.749	2.621	1.815	2.777
22	1.297	1.313	1.375	1.391	1.375	1.550	2.077	1.551	2.149	1.619	2.219	1.619	2.272	1.688	2.386	1.749	2.516	1.812	2.684	1.878	2.840
23	1.359	1.376	1.438	1.453	1.438	1.613	2.140	1.614	2.212	1.682	2.282	1.682	2.335	1.751	2.449	1.812	2.579	1.875	2.747	1.941	2.903
24	1.422	1.439	1.500	1.516	1.500	1.675	2.202	1.676	2.274	1.744	2.344	1.744	2.397	1.813	2.511	1.874	2.641	1.937	2.809	2.003	2.965
25	1.484	1.501	1.562	1.578	1.562	1.737	2.264	1.738	2.336	1.806	2.406	1.806	2.459	1.875	2.573	1.936	2.703	1.999	2.871	2.065	3.027
26	1.547	1.563	1.625	1.641	1.625	1.800	2.327	1.801	2.399	1.869	2.469	1.869	2.522	1.938	2.636	1.999	2.766	2.062	2.934	2.128	3.090
27	1.609	1.626	1.688	1.703	1.688	1.863	2.390	1.864	2.462	1.932	2.532	1.932	2.585	2.001	2.699	2.062	2.829	2.125	2.997	2.191	3.153
28	1.672	1.689	1.750	1.766	1.750	1.925	2.452	1.926	2.524	1.994	2.594	1.994	2.647	2.063	2.761	2.124	2.891	2.187	3.059	2.253	3.215
29	1.734	1.751	1.812	1.828	1.812	1.987	2.514	1.988	2.586	2.056	2.656	2.056	2.709	2.125	2.823	2.186	2.953	2.249	3.121	2.315	3.277
30	1.797	1.813	1.875	1.891	1.875	2.050	2.577	2.051	2.649	2.119	2.719	2.119	2.772	2.188	2.886	2.249	3.016	2.312	3.184	2.378	3.340
31	1.859	1.876	1.938	1.953	1.938	2.113	2.640	2.114	2.712	2.182	2.782	2.182	2.835	2.251	2.949	2.312	3.079	2.375	3.247	2.441	3.403
32	1.922	1.939	2.000	2.016	2.000	2.175	2.702	2.176	2.774	2.244	2.844	2.244	2.897	2.313	3.011	2.374	3.141	2.437	3.309	2.503	3.465

DIMENSIONS IN INCHES

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PAGE	5 OF 5

PIN, COMPOSITE APPLICATIONS, LIGHTWEIGHT
HUCKCOMP LGP, SHEAR TYPE, 130°
COUNTERSUNK HEAD, SWAGE LOCKING,
6AL-4V TITANIUM. (95 KSI SHEAR)

(H)LGPL9SC-V()B() ()

COM103

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