

**BULLETIN 100**

**UMP-MT  
METAL MATERIALS**

CODE	MATERIALS	SUFFIX	SPECIFICATION	TENSILE PSI MIN.	YIELD PSI MIN.	HARDNESS	ELONGATION	TEMP. RANGE
D	2024-T42 ALUMINUM CLAD	ALU-001	AMS-QQ-A-250/5	57000 KSI	34000 KSI	57 HRB MIN	15%	-65°F to +250°F
DK	5052-H32 1/4 HARD ALUMINUM	ALU-002	AMS-QQ-A-250/8	34000 KSI	28000 KSI		12%	-65°F to +250°F
DL	6061- T6 ALUMINUM	ALU-003	AMS-QQ-A-250/11	42000 KSI	35000 KSI	95 HRB	10%	-65°F to +250°F
	2024-T42 ALUMINUM BARE	ALU-004	AMS-QQ-A-250/4	62000 KSI	38000 KSI		15%	-65°F to +250°F
	2024-T851 ALUMINUM BARE	ALU-005	AMS-QQ-A-250/4	67000 KSI	58000 KSI		5%	-65°F to +250°F
	2024-T4 ALUMINUM BARE	ALU-006	AMS-QQ-A-250/5	58000 KSI	36000 KSI	57 HRB MIN	15%	-65°F to +250°F
NO-CODE	1008/1020 LOW CARBON STEEL	CRS-001	ASTM A 1008, ASTM A 1009, QQ-S-698	48,000	25,000	65 HRB MAX	32%	-65°F to +400°F
	1065/1-85 SPRING STEEL	CRS-002	A-A-51142					
	1074/1095 SPRING STEEL	CRS-003	QQ-S-700, AMS5120 MIL-S-7947					
C	304 STAINLESS STEEL	STA-001	AMS5516	75,000	36,000	92 HRB	40%	-320°F to +1300°F
	304 STAINLESS STEEL 1/4 HD	STA-002	AMS5910	125,000	75,000	25 HRC	12%	
	301 STAINLESS STEEL FULL HARD	STA-003	AMS5519	185,000	140,000	41 HRC	9%	
	316 STAINLESS STEEL	STA-004	AMS5524	75,000	30,000	95HRB MAX	40%	-320°F to +1600°F
SS	321 STAINLESS STEEL	STA-005	AMS5510	70,000	25,000		40%	-320°F to +1500°F
	321 STAINLESS STEEL 1/8 HD	STA-006						-320°F to +1500°F
	347 STAINLESS STEEL	STA-007	AMS5512	100,000	30,000		40%	
	4130 CMS ALLOY	STA-008	MIL-S-18729, AMS6350	125,000	75,000	26HRC MIN	8%	
SS	301 STAINLESS STEEL 1/4 HD	STA-009	AMS5517	125,000	75,000	25 HRC	25%	
CV	201 STAINLESS STEEL	STA-010	ASTM-A-666	95,000	30,000	95	40%	
SV	430 STAINLESS STEEL	STA-011	AMS5503	65,000	35,000	86	20%	
P	17-7 PH STAINLESS STEEL	177-001	AMS5528	150,000		34-39 HRC	6%	-320°F to +1900°F
	#625 INCONEL	INC-001	AMS 5599	120,000	60,000		30%	To +2000°F

REVISION: **C** SPECIFICATION NO. **UMP-MT**

**BULLETIN 100  
UMP-CM  
CUSHION MATERIALS**

CODE	TYPE	SUFFIX	SPECIFICATION	TYPE	COLOR	TEMPERATURE RANGE	APPLICATION DATA	
N	Neoprene	NEO-001	AMS3209	General Purpose	Black	-40° to 212°F	General usage cushion with excellent weather and ozone resistance and medium oil resistance.	
		NEO-002	AMS3209 MIL-C-8603	General Purpose Military	Black with Blue Identifier			
		B	NEO-003	AMS3209, PLUS BIOCID	General Purpose	Black	-40° to 212°F	General usage cushion with excellent weather and ozone resistance and medium oil resistance with Biocide.
		R	NEO-004	MIL-R-3065 GRADE SC515,A1,B1,C1,E3,F2	Ozone resistant	Black		Ozone resistant
		G	NEO-005	SAE J200 M2BC510,A14 B14,C12,E034, F17,G21	General Purpose	Black	-40° to 212°F	General usage cushion with excellent weather and ozone resistance and oil and tear resistance
		ER	NEO-006	AMS3209 MIL-C-8603 ASTM D 149	Dielectric	Black with Blue Identifier	-40° to 212°F	General usage cushion with excellent weather and ozone resistance and medium oil resistance. Dielectric
G,E	Ethylene Propylene	ETH-001	SAE J200M3BA710C12	General Purpose Automotive	Black	-40° to 212°F	General usage cushion with excellent weather and ozone resistance and medium oil resistance. For applications requiring resistance to hydraulic oils. Good weather ozone resistance.	
E		ETH-002	MIL-C-8603 (EPR)	Hydraulic Fluid Resistant	Solid Purple			
EP		ETH-003	MIL-C-85052/2 AMS 3253	Hydraulic Fluid Resistant	Solid Purple	-65° to 275°F		
EL		ETH-004	SAE J200M3BA710C12	General Purpose Automotive	White	-40° to 212°F	General usage cushion with excellent weather and ozone resistance and medium oil resistance.	
AG		ETH-005	SAE J200M3BA510C12	General Purpose Automotive	Black		General usage cushion with excellent weather and ozone resistance and medium oil resistance.	
AGR		ETH-006	SAE J200M3BA510C12	General Purpose Automotive	Black		Same as ETH-005 with the additional requirement for electrical resistance of 2 x 10 ^9 ohms.	
		ETH-007	SAE J200M3BA610C12	General Purpose Automotive	Black	-40° to 212°F	General usage cushion with excellent weather and ozone resistance and medium oil resistance.	
EC		ETH-008	SAE J200M3BA710C12	General Purpose Automotive	Black		Same as ETH-001 with the additional requirement for electrical resistance of 5 MEGA ohms.	
ME		ETH-009	ASTM D2000 M2BA510, A14, F17, Z	General Purpose Automotive	Black		General usage cushion with excellent weather and ozone resistance Improved tear strength	
R		ETH-010	DMS 1849 TYPE 1 CLASS II	Hydraulic Fluid Resistant	Black	-65° to 250°F	For applications requiring resistance to hydraulic oils. Good weather ozone resistance.	
F	Nitrile Butadiene	NIT-001	AMS3215 (NBR)	Fuel Resistant	Solid Yellow	-40° to 212°F	For applications requiring resistance to aromatic fuels. Fair resistance to weather and ozone. Not recommended where subjected to light.	
		NIT-002	MIL-C-8603 (NBR)	Fuel Resistant Military	Solid Yellow			
NB		NIT-003	MIL-C-85052/1 AMS3224	Fuel Resistant Military	Solid Yellow	-65° to 275°F		
MR		NIT-004	MIL-R-3065 SB610 A, B, F2					
H	Silicone	SIL-001	AMS 3303	General Purpose Heat Resistant 125 psi Minimum Tear	Red/Orange	-80° to 450°F	Excellent for moderate temperature extremes. Superior weather and ozone resistance.	
		SIL-002	AMS3303 MIL-C-8603	General Purpose Heat Resistant Military, 100 psi Minimum Tear	Natural White			
		SIL-003	AMS3310	General Purpose Heat Resistant Military	Natural White	-80° to 400°F		
		SIL-004	GE24449	Heat and Moderate Hydraulic Fluid Resistant, High Strength	Solid Gray	-80° to 500°F		
HB		SIL-005	PWA36450 AMS3352	Military High Strength and High Temperature, Fiberglass	Brown	-65° to 600°F	Excellent fluid, fire and corrosion resistance	
HT		SIL-006	MIL-C-85052/3 AMS 3316	Military High Strength and High Temperature, Fabric Reinforced	Light Blue	-65° to 500°F	Excellent resistance to most fluids, fuels, oils.	
S		SIL-007	AMS3347	High strength	Red/Orange	-103° to 401°F	Resistance to weathering and high-aniline-point petroleum based oils	
		SIL-008	BOEING BMS 1-63, BMS 1-72		White	-65° to 450°F		
		SIL-009	A-A-59588A CLASS2B GRADE 50-70	Reinforced glass fabric				
		SIL-010	BMS 1-46 GRADE 50					
		SIL-011	AMS 3349		Red/Orange			
		SIL-012	BPS-C-163 TYPE I	Not supported	Solid Gray			
		SIL-013	AMS-R-3065 TA612 B3 E1 F3 GMZ MSFC-1018	Fabric Reinforced Flamability Requirement	Pink		Fabric Reinforced Flamability Requirement	
		SIL-014	AMS 3303	Glass Fabric Reinforced	Red/Orange		Glass Fabric Reinforced	
J	Fluorosilicone	FLU-001	MIL-R-25988 TY II CL 1 GRADE 60	Fuel Resistant (Elastomeric)	Solid Blue	-65° to 400°F	Good aromatic fuel resistance and oil resistance. Not recommended for hydraulic type oils.	
JS		FLU-002	MIL-R-25988 TY II CL 2 GRADE 50	Fuel Resistant (Elastomeric) High Srength	Solid Blue			-65° to 400°F

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CUSHION MATERIALS**

CODE	TYPE	SUFFIX	SPECIFICATION	TYPE	COLOR	TEMPERATURE RANGE	APPLICATION DATA
T	Teflon	TEF-001	AMS3652	Fuel Resistant Plastic Skived	White	-90° to 450°F	Excellent resistance to most fluids, fuels, oils, etc., within temperature limits specified. Also available
X		TEF-002	AMS3652, AMS 2491	Fuel Resistant Plastic Anti-Slip	Brown	-90° to 450°F	Excellent resistance to most fluids, fuels, oils, etc., within temperature limits specified. Also available anti-slip treated.
T		TEF-003	AMS 3652	Fuel Resistant Plastic Machined Channel	White	-90° to 450°F	Excellent resistance to most fluids, fuels, oils, etc., within temperature limits specified. Also available anti-slip treated.
T		TEF-004	AMS 3660	Fuel Resistant Plastic Machined Inserts	White	-90° to 450°F	Excellent resistance to most fluids, fuels, oils, etc., within temperature limits specified. Also available anti-slip treated.
T		TEF-005	AMS 3660	Fuel Resistant Plastic Molded Wedge	White	-90° to 450°F	Excellent resistance to most fluids, fuels, oils, etc., within temperature limits specified. Also available anti-slip treated.
T		TEF-006	AMS 3656	Fuel Resistant Plastic Extruded Tubing	White	-90° to 450°F	Excellent resistance to most fluids, fuels, oils, etc., within temperature limits specified. Also available anti-slip treated.
P		TEF-007	BPS-C-155, AMS 3677	PTFE Impregnated PBI Glass Blend Fabric	Brown	550°	
		TEF-008	BAC 3112-1P	PTFE Impregnated PBI Flextra		550°	
P	Laminate Phenolic	PHE-001	MIL-P-79C, TY FBG Form R or TM	Cotton Fabric Base Phenolic Resin	Brown		Good dielectric properties. High strength and toughness
P	Plastic	PLA-001	Plastisol MIL-P-20689 (PVC)	General Purpose Plastic	Black	-0° to 200°F	Anti-Abrasion for general purpose applications. Available in dip coat only.
		PVC	PVC-001	AMS3630	Felexible	Black	
( )	CRES	CRE-001	Knitted Wire Mesh AMS 5697	High Temperature Resistant	Silvery Gray	to 1200°F	Metallic, Type 300 series stainless steel for elevated temperature use. Somewhat abrasive.
FG	GLASS FIBER	GLS-001	Braided Glass Fiber	High Temperature Resistant With Aluminized Resin	Silvery Gray	to 1000°F	High Temperature
						REVISION: <b>C</b>	SPECIFICATION NO. <b>UMP-CM</b>

**BULLETIN 100**  
**UMP-PR**  
**MATERIAL PROCESSES**

	CODE	SPECIFICATION	DESCRIPTION
ANODIZE	ANO-001	MIL-A-8625	TYPE II, CLASS 1 (CLEAR)
	ANO-002		TYPE 1, CLASS 1, 1 COAT PRIMER BMS 10-11 TYPE 1
	ANO-003		TYPE 1, CLASS 1, 2 COATS PRIMER PER TT-P-1757
	ANO-004		TYPE I, CLASS 1, FUEL TANK COAT PER MIL-C-27725
	ANO-005		TYPE 1, CLASS 1 (CLEAR)
	ANO-006		TYPE 1 CLASS 1 & 1 COAT PRIMER BMS 10-11 TY 1 (GREEN)
	ANO-007		TYPE II, CLASS II, COLOR BLACK, FED-STD-595
	ANO-008		TYPE II, CLASS II, COLOR BROWN #30219
	ANO-009		ONE COAT WHITE ENAMEL BMS 10-11 TYPE 1 #702
BALL BURNISH AND PASSIVATE	BAL-001	AMS 2700	METHOD 1, TYPE 2
	BAL-002	ASTM A 967	METHOD 1, TYPE 6
CADMIUM PLATE	CAD-001	AMS-QQ-P-416	TYPE I, CLASS 1 (BRIGHT)
	CAD-002		TYPE I, CLASS 3 (BRIGHT)
	CAD-003		TYPE I, CLASS 2 (BRIGHT)
	CAD-004		TYPE I, CLASS 1 (BRIGHT) & BAKE 3 HRS @375°
	CAD-005		TYPE I, CLASS 2 (BRIGHT) & BAKE 3 HRS @375°
	CAD-006		TYPE II, CL 2 (GOLD)
	CAD-007		TYPE I, CL 3 (GOLD)
	CAD-008		TYPE II, CL 3 (GOLD)
	CAD-009		TYPE II, CLASS 2 (GOLD) & BAKE 3 HRS @375°
	CAD-010		TYPE I, CLASS 3 (GOLD) & BAKE 3 HRS @375°
	CAD-011	AMS2400, AMS2759	.0003-.0005 (BRIGHT)+BAKE 3 HR@375°
CAUSTIC ETCH	CAU-001	NONE	CAUSTIC ETCH
CHEMICAL FILM	CHE-001	MIL-C-5541	TYPE 1, CLASS 1A. (COLOR APPROX GOLD)
	CHE-002		TYPE 1, CLASS 3 (COLOR GOLD)
	CHE-003		TYPE 1, CLASS 1A, & 1 COAT PRIMER MMS 405. COLOR #34151(GREEN)
	CHE-004	MIL-C-5541, MIL-P-23377	TYPE 1, CLASS 1A, & 2 COATS PRIMER PER MIL-P-23377
	CHE-005	MIL-C-5541, BAC5736	TYPE 1, CLASS 1A & PRIME BMS10-11 TY I PER BAC5736
	CHE-006	MIL-C-5541, BMS10-20	TYPE 1, CLASS 1A & ORGANIC COATING, BMS 10-20, TP II
HEAT TREAT	HEA-001	AMS2550	HEAT TREAT TO RC 30-38, DRY HONE TO CLEAN
	HEA-002		HEAT TREAT TO RC 32-36, DRY HONE TO CLEAN
	HEA-100	AMS-H-6088	HEAT TREAT TO CONDITION T-42, RE 69 MIN
	HEA-101		HEAT TREAT TO CONDITION T-42, RE 91 MIN
	HEA-102		HEAT TREAT TO CONDITION T-6, RE 85 MIN
	HEA-103		HEAT TREAT TO CONDITION T-6, RE 96 MIN
	HEA-104		HEAT TREAT TO CONDITION T-72, TEMPER (62,000 PSI MIN)
	HEA-200	AMS 2759 AMS-H-6875	HEAT TREAT & NORMALIZE (SCALE FREE) RC 12-26
	HEA-201		HEAT TREAT & PRECIPITATION HARDEN RC 24 MIN
	HEA-202		HEAT TREAT & STRESS RELIEVE TO TH1100 COND RC 32-40
	HEA-203		HEAT TREAT & STRESS RELIEVE TO TH1100 COND RC 31-39
	HEA-204		HEAT TREAT & STRESS RELIEVE TO TH1100 COND RC 34-39
	HEA-205		HEAT TREAT TO RC 10-27 SCALE FREE (LITE SAND BLAST)
	HEA-206		HEAT TREAT TO RC 32-38 SCALE FREE (LITE SAND BLAST)
	HEA-207		HEAT TREAT TO RC 32-40, DRY HONE TO CLEAN
HEA-208	HEAT TREAT TO SPRING TEMPER, RC 44-50		
HEA-209	HEAT TREAT TO R15N (80/83)		
HEA-300	PWA 11-32	HEAT TREAT & PRECIPITATION HARDEN PER PWA 11-32, RC 24 MIN	
PASSIVATE	PA-001	AMS 2700	TYPE 6
	PA-002	ASTM A 967	PASSIVATE & BAKE @ 350/400°F FOR 3 HOURS
PAVCOAT SUPERSEAL	PAV-001	NONE	PAVCOAT SUPERSEAL
PLASTISOL COAT	PLA-001	MIL-P-20689	TYPE 1, CLASS 2, PLASTISOL COAT .03/.06 THICK PER B/P, BLACK
NEOPRENE COAT	PLA-002		NEOPRENE LATEX DIP COAT ALL SURFACES .005/.015 THICK
SODIUM TREAT	SOD-001	AMS 2491	SODIUM TREAT
ZINC PLATE	ZIN-001	ASTMB633	FE/ZN 13, TY II, .0005 GOLD
	ZIN-002		FE/ZN 13, TY III, .0005 BRIGHT
	ZIN-003		FE/ZN 13, TY II, .0005 BLACK
	ZIN-004		FE/ZN 8, TY II, .0003 GOLD
	ZIN-005		FE/ZN 8, TY III, .0003 BRIGHT
	ZIN-006	BAC5637 TYPE II/AMS 2417 TYPE 2	ZINC-NIKEL TYPE II
	ZIN-007	MIL-C-490 TT-P-1757	ZINC PHOSPHATE & 1 COAT ZIN. CHROMATE PRIMER
	ZIN-100	ASTMB633, GM 4345	FE/ZN 13 TY II .0005 GOLD REF. GM4345-12D144/48
	ZIN-101	ASTMB633, GM 4345	FE/ZN 13 TY II .0005 RED REF. GM4345-12D144/48
	ZIN-200	ASTMB633, GM 4345	FE/ZN 13 TY III, .0005 BRIGHT REF. GM4345-9K96/0
	ZIN-201	ASTMB633, GM 4345	FE/ZN 8, TY II, .0003 GOLD GM 4345-M-6D96/48
	ZIN-300	GMW 3044	8K240/120X, 8 Mu MIN THICKNESS & SEALER BRIGHT
	ZIN-400	WSS-M21P17-B1	8 Mu MIN THICKNESS & SEALER BRIGHT
	ZIN-401	CORROLUX 550 TRIVALEN	8 Mu MIN THICKNESS & SEALER BRIGHT MEETING 480 HRS SALT SPRAY REQMT.
	ZIN-500	ASTMB633	FE/ZN 13, TY II, .0005 GOLD & SUPERSEAL
ZIN-501	ASTMB633	FE/ZN 8, TY V, .0003 GOLD & SUPERSEAL FRTL 49-00005-502	
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