

List received: 6/27/01 from D. Crumb

Materials Identification and Usage List - Non-Metallic Materials

Item No.	Material Description/ Brand Name Supplier	Application	Material Specifications	Thermal Vacuum Stability (%)	JPL Rating¹	Comments
1	Vespel, Dupont SP3	Pin		TML = 0.54 VCM= 0.01 WVR=	1	
2	Kevlar 29 3000 Denier Yarn, Dupont	Tension Member		TML =3.13 VCM=0.19 WVR=1.76	3	Reviewing with contamination control. Thermal vacuum bakeout may be required.
3	Miller Stevens 903	Adhesive		TML = VCM= WVR=	3	No outgassing data available. Material may need to be tested for vacuum stability. How much of this material will be used? Reviewing with contamination control.
4	EC2216	Adhesive		TML =0.97 VCM=0.02 WVR=0.32	2	Do not use material if hardware will be exposed to temperatures greater than 75°C in vacuum
5	Vespel, Dupont SP1	Spacer		TML =1.09 VCM=0.00 WVR=0.40	1	
6				TML = VCM= WVR=		
7				TML = VCM=		

Item No.	Material Description/ Brand Name Supplier	Application	Material Specifications	Thermal Vacuum Stability (%)	JPL Rating ¹	Comments
				WVR=		

1.) 1 - acceptable, 2 - qualified acceptable, 3 - provisionally acceptable, 4 - unacceptable

Materials Identification and Usage List - Metallic Materials

Item No.	Material Description/ Condition	Application	Material Specifications	Stress Corrosion Cracking Rating	JPL Rating¹	Comments
1	Invar 36	Structural Elements	ASTM B753-T36	A	1	
2	Al 7075 T73	Structural Elements	SAE-AMS-QQ-A-225/9	1	1	
3	Al 6061 T651	Structural Elements	SAE-AMS-QQ-A-250/11	1	1	
4	A286	Fasteners	AMS 5737	1	1	
5	303 CRES	Fasteners, Pins	AMS 5738	1	1	
6	Copper, 99.999% pure	Thermal Strap		A	1	
7	CDA 172	Clamps, Bushing	ASTM B194	1	1	
8						

1.) 1 - acceptable, 2 - qualified acceptable, 3 - provisionally acceptable, 4 - unacceptable

Materials Identification and Usage List - Processes

ITEM NO.	PROCESS	SPECIFICATION	MATERIALS PROCESSED	APPLICATION	JPL EVALUATION	
					Rating	COMMENTS
1	Gold Plating	MIL-G-45204, Class 3, Type 3	Invar 36	Corrosion Protection, Thermal Conduction	1	
2	Gold Plating	MIL-G-45204, Class 3, Type 3	Copper	Thermal Conduction	1	
3	Passivation	FS 505146	303 CRES	Passivation	1	
4	Bonding	D-8208, Section 3.17, FP513414	Solithane 113/C113-300 Filled Polyurethane	Spot Bonding of Component Parts	1	
5	Bonding	BS515871, D-8208, Section 3.17	Scotch Weld 2216 B/A with Filler	Spot Bonding of Component Parts	1	
6	Workmanship	FS504040		Workmanship Standards for Mechanical Parts and Material	1	

7	Torque	ES504255		Torque Requirements, Threaded Fasteners, Spacecraft Structural and Electronic Equipment	1	
8	Solder Joint	D-8208, Section 3.14, Fp513414		Solder Joint	1	
9	Installation	D-8208, Section 3.12, FP513414		Connector Installation – Rectangular – Miniature	1	