

FAR / BCAR 31 Compliance Requirements

31.23 Flight Load Factor	1.4
31.24 Factor of Safety	
(a) Metallic Components	1.5
(b) Fibrous / Webbing	5.0
(b) Anti-tear / Ripstop	2.0
(d) Heating Effects	1.3
BCAR 31.24 Commercial Materials	1.3

Envelope Parameters

Maximum Gross Weight (kg)	160.0
Envelope Weight (kg)	10.0
Maximum Suspended Load (kg)	150.0
Base Angle (degrees)	37.0
Number of Gores	16
Vent Hole Diameter (m)	1.5
Mouth Diameter (m)	2.4

Materials Parameters

Flying Wires	
Tensile Strength (kg)	550.0
Grade (A)ircraft / (C)ommercial	C
(S)tainless or (K)evlar	K
Fabric	
Test Strength (kg/25mm)	14.0
Grade (A)ircraft / (C)ommercial	C
Anti-Tear / Ripstop (Y /N)	N
Vertical Load Tape	
Tensile Strength (kg)	150.0
Grade (A)ircraft / (C)ommercial	C
Load Ring	
Tensile Strength (kg)	500.0
Grade (A)ircraft / (C)ommercial	C

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	Grade (A)ircraft or (C)ommercial	Break Force / Tensile Strength	Flight Load 31.23	Actual Safety Factor	Required Safety Factor	OK
Load Ring	C	500.0	87.0	5.7	2.0	YES
Vertical Load Tape	C	150.0	17.1	8.8	8.5	YES
Fabric at Apex	C	14.0	1.5	9.5	8.5	YES
Fabric at Base	C	14.0	0.9	16.1	8.5	YES
Flying Wires	C	550.0	16.4	33.5	6.5	YES

Notes:

FAR 31 does not provision for the use of commercial grade materials. BCAR 31 provides for there use with an additional safety factor of 1.3. This factor has been applied to all materials which are of commercial grade.