

,
 , 127 , , 710071, ; e-mail:
 wangcq@nwpu.edu.cn

, 15, 49005, ; e-mail; jerr_5@ukr.net

1. *Jenkins C. H. M.* Progress in astronautics and aeronautics. Vol. 191. Gossamer spacecraft: membrane and inflatable structures technology for space applications. Reston, Virginia : American institute of aeronautics and astronautics, 2001. 586 p.
2. 8- , 2006. 1056
3. *Shikhirin V. N., Ionova V. F., Shalnev O. V., Kotlyarenko V. I.* Elastic mechanisms and structures (in Russian) Irkutsk, 2006. 286 p.
4. The Echo-I inflation system: technical report. Langley research center; chief *D. L. Clemmons Jr.* Hampton, Virginia, 1964. 56 p. TN D-2194.
5. *Thunnissen D. P., Webster M. S., Engelbrecht C. S.* Low-Mass Inflation Systems for Inflatable Structures. Jet Propulsion Lab., 22 p.
 URL: <http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19960054146.pdf> (application date 03/12/2014).
6. Meteoroid and space debris terrestrial environment reference model MASTER-2009 [Electronic resource]. ESA-SD-DVD-02, Release 1.0, December 2010. 1 electronic disc (DVD-R).
7. *Koshmarov Yu. A., Ryzhov Yu. A.* Applied rarefied gas dynamics (in Russian). Moscow, 1977. 184 p.
8. *Pisarenko G. S., Yakovlev A. P., Matveev V. V.* Handbook of Materials Resistance (in Russian). 2nd ed. revision and additions. Kyiv, 1988. 736 p.
9. *Sutton G. P., Biblarz O.* Rocket Propulsion Elements. Eighth Edition. John Wiley & Sons, Inc., 2010. 784 p.
10. *Shalin R. E., Efremov I. S., Yarovinskiy Yu. L., Lukin V. I.* Experience in design and manufacturing of large-size structures from aluminum-lithium alloys for rocket-space engineering products (in Russian). Welding production. 11. 1996.
 URL: <https://viam.ru/sites/default/files/scipub/1996/1996-202092.pdf>.
11. Ti 6Al 4V (Grade 5) Titanium Alloy Data Sheet. URL: <https://kyocera-sgstoool.co.uk/titanium-resources/titanium-information-everything-you-need-to-know/ti-6al-4v-grade-5-titanium-alloy-data-sheet/#:~:text=Titanium%206al-4v%20has%20a%20density%20of%204.43%20g%2Fcc>.
12. Titanium Ti-5Al-2Sn-2Zr-4Mo-4Cr (Ti-17) Beta Processed. Matweb. URL: https://www.matweb.com/search/datasheet_print.aspx?matguid=a33b3d2218204cb0b6f84724768a4176.
13. Titanium Ti-10V-2Fe-3Al (Ti 10-2-3) Solution Treated 850°C (1560°F). Matweb. URL: <https://www.matweb.com/search/DataSheet.aspx?MatGUID=e810947a42894199adec39058992b53a&ckck=1>.

14. Titanium IMI 829 (Ti-5.5Al-3.5Sn-3Zr-1Nb-0.25Mo-0.3Si). Matweb. URL: <https://www.matweb.com/search/datasheet.aspx?matguid=f76e8131f6fb427ba943a92882273970&n=1>.
15. *Gaydachuk A. V., Karpikova O. A., Kondratev A. V., Slivinskiy M. V.* Honeycomb cores and panel structures for space purposes (in Russian): monograph. In 2 vol. Vol. 1. Technological imperfections of honeycomb cores and structures. Kharkiv: National Aerospace University named after N. E. Zhukovsky «Kharkiv Aviation Institute», 2012. 279 p.
16. *Banichuk N. V., Karpov I. I., Klimov D. M.* Mechanics of large space structures (in Russian). .: Publishing House «Factorial», 1997. 302 p.

14.02.2024,
19.03.2024