English Title of the Paper (Times New Roman 14 pt Bold)

－2nd Report: English Sub-Title－(Times New Roman 12 pt Bold)

Taro YAMADA\* Jiro KAWAKAMI\*\* Saburo YAMAKAWA\*† (Times New Roman 10.5pt)

 \*Department of Mechanical Engineering, Faculty of Engineering, The University of Tokyo

 (7-3-1Hongo, Bunkyo-ku, Tokyo, 113-0033)

 \*\*Institute of Environmental Studies, Graduate School of Frontier Science, The University of Tokyo

 (7-3-1 Hongo, Bunkyo-ku, Tokyo, 113-0033)

Summary

A concise and factual abstract is required. The abstract should briefly state the purpose of the research, principal results, and major conclusions. An abstract is often presented separately from the article, therefore, it must be able to stand alone. For this reason, references should be avoided. In addition, non-standard or uncommon abbreviations should be avoided; however, if essential, abbreviations must be defined upon their first mention within the abstract itself. The abstract must not exceed 200 words. The use of Times New Roman 9 pt font with 10 pt spacing between the lines is recommended. Before typing, an indent of two character spaces should be introduced.

 For keywords, select 5 to 8 English words that express the main theme and make it easy to determine the content of the research paper. Select two keywords from the vocabulary table provided from JSRAE and list them as the first keywords. Capitalize the first letter of the keyword. The font size must be 10 pt. Take one blank line from Summary for the correct spacing.

**Keywords:** Heat transfer, Thermal storage, Evaporation, Condensation, Refrigeration

1. Main Heading (centered) (11pt)

(10pt, leave 1 line)

This template is for Microsoft Word manuscripts contributed to the Trans. JSRAE. Manuscripts must be written in English and typed in two columns, with fifty-eight lines per column on numbered pages of A4 or US letter size. Margins are to be 30 mm from the top, 27 mm from the bottom, 24 mm from the right and left, and the gap between columns is to be 12 mm. All figures and tables should be included in the most appropriate locations within the main text and not placed on separate pages. A slight difference in the number of lines is permitted.

The main headings will be Introduction, Nomenclature, Theory, Experimental, Results, Discussion, Conclusions, and References. Leave a blank line above and below each main heading. Main heading will be in 11 pt and centered font.

Within the main body of manuscript, use Times New Roman 10 pt. Use an indent of 2 spaces when starting a new paragraph. Articles cited in the main body of manuscript should be indicated by sequential number, for example, xxxxx1), yyyyy2-4). The reference numbers of cited articles assigned in the order of their appearance within the text.

(10pt, leave 1 line)

2. Sub Headings

(10pt, leave 1 line)

2.1 Section heading

Left-aligned, typed in 10 pt font, leave a blank line above the heading.

2.1.1 Term heading

Left-aligned, typed in 10 pt font, do not leave any blank lines above or below this level of heading.

(a) Small headline Typed in 10 pt font, the text begins on the same line, keeping two blank characters.

3. Equations

Mathematical equations should be numbered serially such as (1), (2), (3). Cite as Eq. (1), Eqs. (3)–(5). Spell out “Equation” if it appears at the beginning of a sentence.

  (1)

  (2)

4. Figures and Tables

Each figure and table must have a caption. Numbers should be given as Fig.1, Fig.2, Table 1 (photos are included as figures). Cite as Fig.1, Figs. 1–3, or Table 1. If the reference appears at the beginning of a sentence, it should be indicated as Figure 1 or Figures 1–3, without abbreviation.

For titles of tables and figures, use 10 pt Times New Roman and capitalize only the initial word. In addition, the titles of tables and figures should be written after the numerical reference for the table (figure), keeping one character blank.

Figures, tables, and photos should clear enough to be printed and characters in the figures and tables are to be larger than 9 pt font. For titles of abscissa and longitudinal axes of charts, use 10 pt.

Photos should be of sufficient sharpness.

Leave a blank line above and below each figure or table.

(leave 1 line)

Fig.1 Temperature–enthalpy diagram of R 32,

R 125 and R 134a.

(leave 1 line)

Table 2 Molar masses, standard boiling points and critical temperatures of the refrigerants

|  |  |  |  |
| --- | --- | --- | --- |
| Refrigerant  | *M* | *T*b | *T*c |
|  | g・mol-1 | K | K |
| R 10 | 153.822 | 349.88 | 556.36 |
| R 11 | 137.367 | 296.89 | 471.16 |
| R 12 | 120.913 | 243.364 | 384.98 |
| R 13 | 104.459 | 193.21 | 301.87 |
| R 14 | 88.004 | 145.11 | 227.61 |
| R 20 | 119.377 | 334.28 | 536.36 |
| R 21 | 102.922 | 282.1 | 451.56 |
| R 22 | 86.468 | 232.34 | 369.3 |
| R 23 | 70.014 | 191 | 299 |

(leave 1 line)

5. Units and Nomenclature

The use of SI units is recommended. For example; *k* [W/(m K)] or *k* [Wm−1K−1], *k* = 0.58 W/(m K) or k = 0.58 Wm−1K−1.

List symbols in alphabetical order with their definition and SI units. Greek letters, subscripts, and superscripts should follow Roman symbols.

6. Chemical Nomenclature

Use IUPAC or Chemical Abstract conventions. With regard to abbreviations of chemical compounds, follow the internationally common usage. If necessary, note the abbreviation in the main body or footnote. For the names of enzymes, follow the rules of the International Union of Biochemistry. For refrigerant numbers, insert a half space (or a one quarter space) between R and their symbol, e.g., R 134a.

7. References

List references in the order in that they appear within the main text of the manuscript. Refer to the following instructions and examples. References should be typed in 9 pt font.

(a) Journals; Name of author(s), Paper title, Name of journal, Year of publication, Volume (number), Pages (first and last page). Write Journal name in Italics and Volume in Bold face.

(b) Books; Name of author(s), Title of Book, Volume (not necessary if it is complete in one volume), revision(editor), Year of publication, Publisher, Place of publication, quoted pages (first and last page).

(c) Proceedings; Name of author(s), Name of proceedings, Place and Year of the conference, Volume, Pages (first and last page).

(d) Engineering data (brochure); Name of engineering data: Company name of publication, (Publication year, month)

(e) Patent; Name of inventor, Name of invention, the year of invention, the patent number, application and/or registration.

(f) Web site; URL of web site: (year and month of quotation)

Important note for authors citing articles written in Japanese. When referring to such references, add “(in Japanese)” at the end of each description. If the cited work has an official English translation, authors are requested to reference that translation. However, if the cited work does not have an official translation, authors are requested to translate the citation information into English and provide both English and Romanized Japanese.

References

1. Tanaka, T., Study on Refrigeration, *Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers*, 2009, **26** (1), pp. 42–53. (in Japanese)
2. Kaushik, S.C. and Arora, A., Energy and Exergy Analysis of Single Effect and Series Flow Double Effect Water-Lithium Bromide Absorption Refrigeration Systems, *International Journal of Refrigeration*, 2009, **32** (6), pp. 1247–1258.
3. Tanaka, T., “Refrigerating Machine,” 1996, Japan Publishing Co., Tokyo, pp. 40–42. (in Japanese)
4. Ito, J., “Air Conditioning,” Vol. 3, 2nd ed., (ed. by T. Tanaka), 1983, Air Conditioning Press, Tokyo, pp. 45-46. (in Japanese)
5. Franks, F., “Effects of Low-temperatures on Biological Membranes,” (ed. by Morris, G. J. and Clarke, A.), 1991, Academic Press, London, pp. 3-19.
6. Kriss, A. E. (Translated from Russian by Shewan, J. M. and Kabata, Z.), “Low Temperature Preservation Foods”, 1996, Oliver and Boyd, Edinburgh, UK, pp. 43–51.
7. Lorentzen, G., Proceedings of New Applications of Natural Working Fluids in Refrigeration and Air Conditioning, Hannover, Germany (1994), pp. 23–36.
8. Jansen, M. J. P., Engels, F. L. M. and Kuijpers, L. J. M., Proc. 19th Int. Cong. Refrig., Hague, Netherlands (1995), Vol. IVb, pp.860–867.
9. Reito, T. and Kucho, H., Proceedings of 2003 JSRAE Annual Conference, Tokyo (2003), pp. 1–4. (in Japanese)
10. Reito, T. and Kucho, H., “Refrigerator,” 2002, US Patent 1234567.
11. http://www.jsrae.or.jp/ (Jan., 2014)