

Electronic Supplementary Information (ESI)

Ethylene-Bridged Polysilsesquioxane/Hollow Silica Particles Hybrid Film for Thermal Insulation Material

Satoru Tsukada^{ab}, Yuki Nakanishi^{ac}, Takashi Hamada^{*a}, Kenta Okada^{ac}, Susumu Mineoi^{ac}
and Joji Ohshita^{*ade}

^aCollaborative Research Laboratory, Graduate School of Advanced Science and Engineering, Hiroshima University, 1-4-1 Kagamiyama, Higashi-Hiroshima, Hiroshima 739-8527, Japan

^bDepartment of Materials Science, Graduate School of Engineering, Chiba University, 1-33 Yayoi-cho, Inage-ku, Chiba, 263-8522, Japan

^cTechnical Research Center, Mazda Motor Corporation, 3-1 Shinchu, Fuchu-cho, Aki-gun, Hiroshima 730-8670, Japan

^dSmart Innovation Program, Graduate School of Advanced Science and Engineering, Hiroshima University, 1-4-1 Kagamiyama, Higashi-Hiroshima, Hiroshima 739-8527, Japan

^eDivision of Materials Model-Based Research, Digital Monozukuri (Manufacturing) Education and Research Center, Hiroshima University, 3-10-32 Kagamiyama, Higashi-Hiroshima, Hiroshima 739-0046, Japan

Corresponding authors: Takashi Hamada and Joji Ohshita

E-mail address: hama@hiroshima-u.ac.jp and jo@hiroshima-u.ac.jp

Contents

Fig. S1 Photograph of handmade thermal insulation property tester

Fig. S2 Thermogravimetric- and derivative thermogravimetric curves for EBPSQ film, hybrid 1-10, and hybrid 1-20 measured at a heating rate of 10 °C/min under air

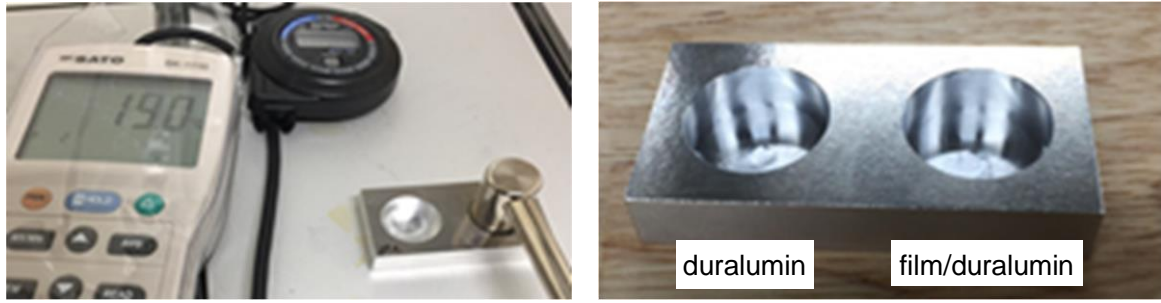


Fig. S1 Photograph of handmade thermal insulation property tester: surface thermometer (left) and duralumin plate (right).

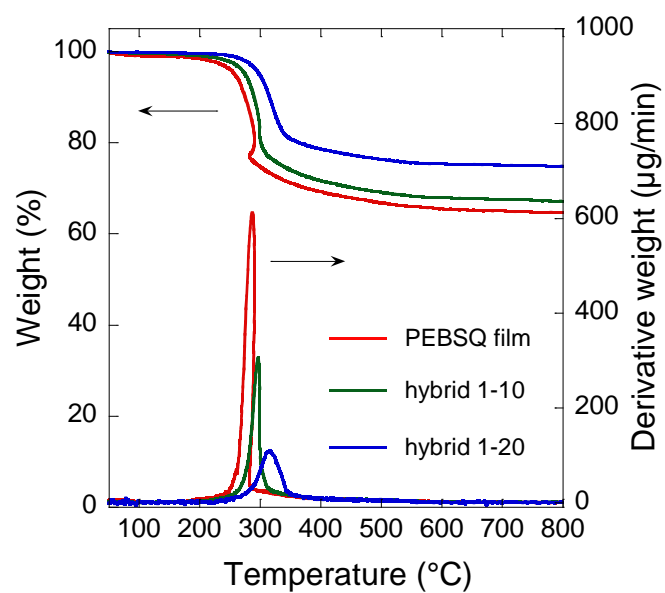


Fig. S2 Thermogravimetric- and derivative thermogravimetric curves for EBPSQ film, hybrid 1-10, and hybrid 1-20 measured at a heating rate of 10 °C/min under air.