

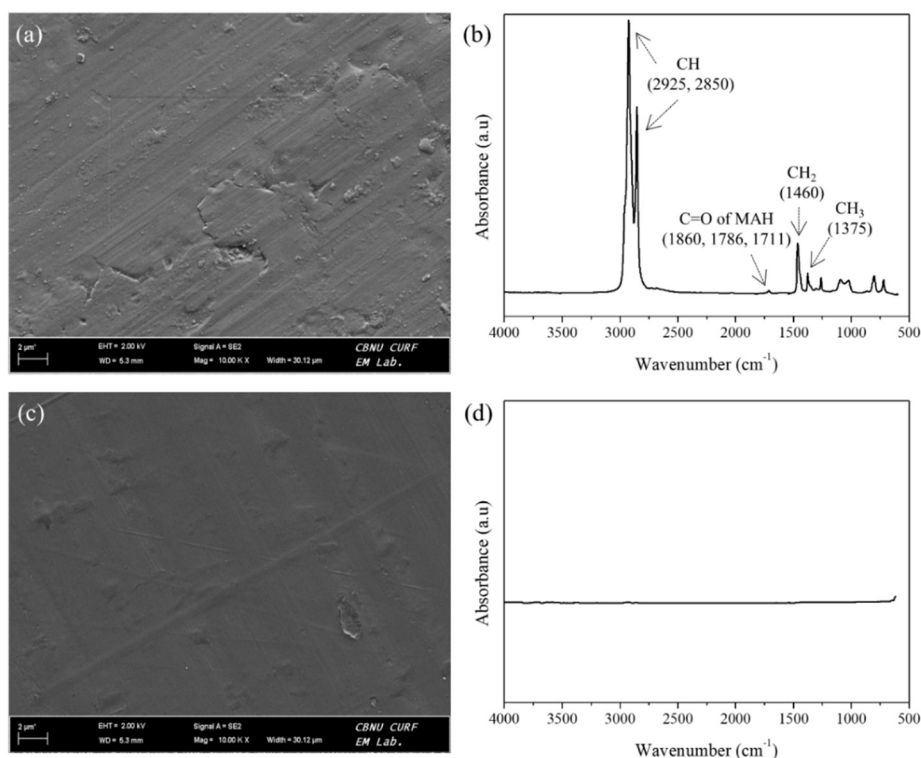
## Supplementary Materials

**Table S1.** Results of swelling test of CPP in HRPB at 80 °C for 1 day.

CPP	Weight of Sample (g)	
	Before Swelling Test	After Swelling Test <sup>1</sup>
Specimen 1	0.054	0.059
Specimen 2	0.052	0.057
Specimen 3	0.054	0.059

<sup>1</sup>: After immersing of CPP in HRPB, the surface of CPP was washed with acetone and weighed after drying.

The swelling test was performed by immersing the CPP in HRPB at 80 °C for 1 day. As shown in Table S1, the weight of CPP increased around 9% in the swelling test. The weight gain of CPP specimens implies that HRPB could be well penetrated to CPP with EPDM-B-15 during the tempering of CPP/EPDM-B-15/Al foil laminate.



**Figure S1.** (a,b) SEM image and FT-IR spectra of CPP side after peel testing of CPP/EPDM-B-15/Al foil; (c,d) SEM image and FT-IR spectra of Al foil side after peel testing of CPP/EPDM-B-15/Al foil.

As shown in the SEM images, the surface of CPP side is much rougher than that of Al foil side after the peel test. Moreover, in FT-IR spectra, the characteristic peaks of EPDM-B-15 corresponding to CH (2925 and 2850 cm<sup>-1</sup>), CH<sub>2</sub> (1460 cm<sup>-1</sup>), CH<sub>3</sub> (1375 cm<sup>-1</sup>) and C=O of MAH (1860, 1786 and 1711 cm<sup>-1</sup>) were observed in CPP side while those peaks were not found in Al foil side. It is postulated that failure of CPP/EPDM-B-15/Al foil in peel test occurred at interface between EPDM-B-15 and Al foil due to the weak adhesion between EPDM-B-15 and Al foil.