materials

MDPI

Article

Effects of Filler Distribution on Magnetorheological Silicon-Based Composites

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Received: 17 July 2019; Accepted: 12 September 2019; Published: 18 September 2019

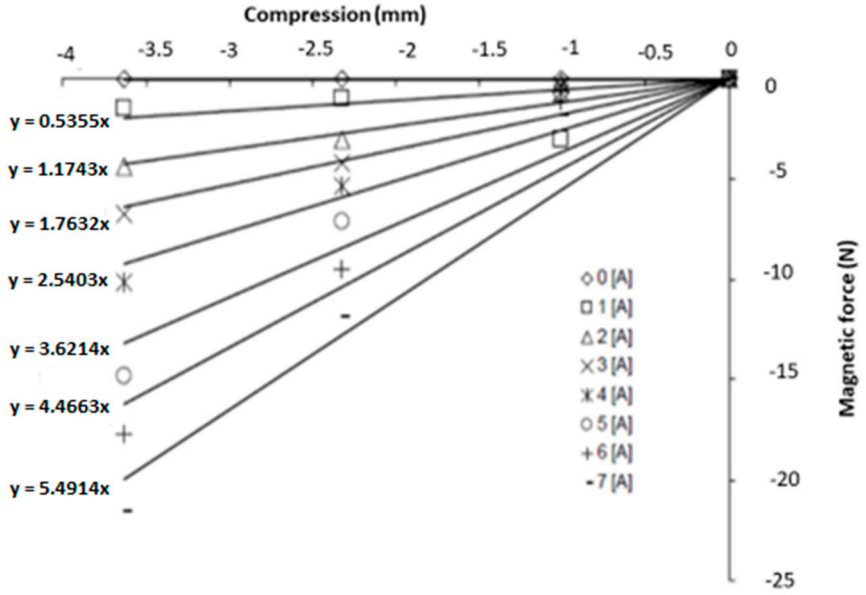

Figure S1. Magnetic forces theoretical prediction using various magnetic currents as a function of compression shift position.

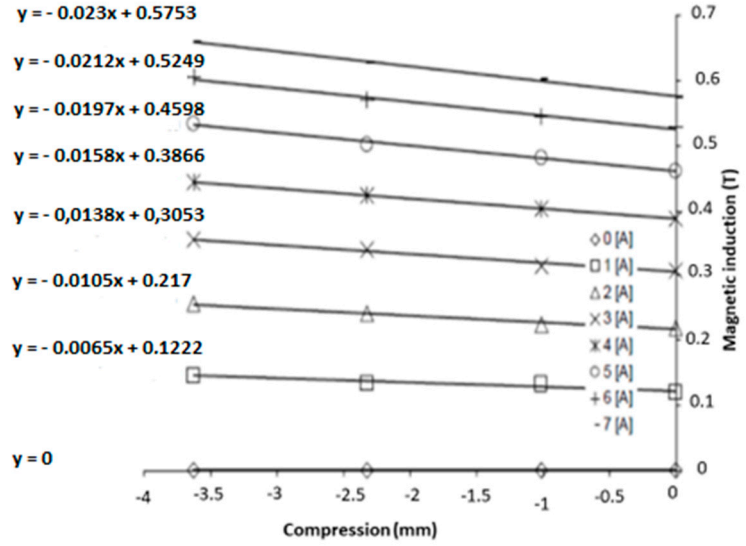

Figure S2. Magnetic inductions theoretical prediction using various magnetic currents as a function of compression shift position.

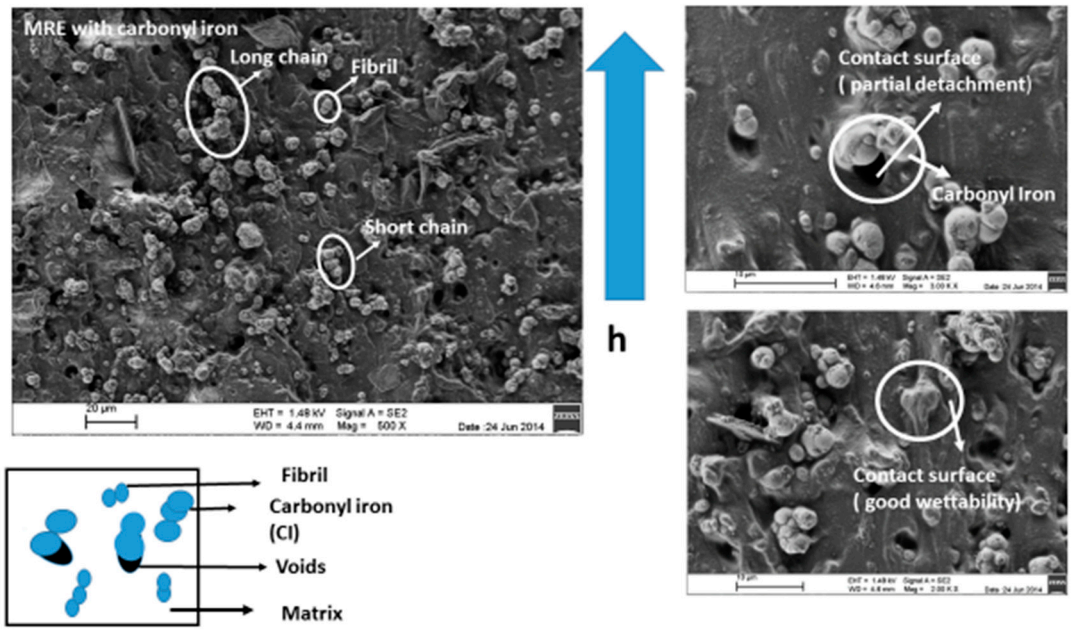

Figure S3. Carbonyl iron (CI) particles of size range 1–5 μm within the MRE composite.

Table S1. Measured values of magnetic force and induction at various current and compression position of the magnetorheological elastomer (MRE) composites.

Current / A	Shift position / mm	Magnetic Force / N	Magnetic Induction / T
0	0	0	0
0	−1.01	0	0
0	−2.32	0	0
0	−3.63	0	0
1	0	0	0.120
1	−1.01	−3	0.133
1	−2.32	−0.96	0.135

1	−3.63	−1.44	0.146
2	0	0	0.219
2	−1.01	−0.16	0.225
2	−2.32	−3.05	0.241
2	−3.63	−4.34	0.256
3	0	0	0.308
3	−1.01	−0.32	0.314
3	−2.32	−4.18	0.340
3	−3.63	−6.75	0.355
4	0	0	0.387
4	−1.01	−0.64	0.402
4	−2.32	−5.31	0.423
4	−3.63	−10.13	0.444
5	0	0	0.460
5	−1.01	−0.64	0.478
5	−2.32	−7.08	0.502
5	−3.63	−14.83	0.533
6	0	0	0.528
6	−1.01	−1.12	0.544
6	−2.32	−9.48	0.570
6	−3.63	−17.12	0.605
7	0	0	0.574
7	−1.01	−1.84	0.601
7	−2.32	−11.84	0.627
7	−3.63	−21.54	0.700