

Stress relaxation of UHMWPE gels

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reptation 30  
(G(t))  
entanglement molecular weight( $M_e$ ) (MWD)

가 MWD

UHMWPE  $G(t)$   $M_e$   
85.3 wt.% ( $\phi_p=0.147$ ) 가 UHMWPE 88.9 wt.%  
( $\phi_p=0.111$ ) MWD  $M_e$  가 가  
Double reptation(DR) ( $=2.0$ )  
0.147  $\phi_p$  1.0 ; ( $2M_e$ ) (가  
(0.02  $\phi_p$  0.111)  $G(t)$  DR ( $=2.0$ ) ( $W_L$ ) 0 .) 0.001  $W_L$  0.10  
23 DR . DR ( $=2.0$  for  
0.147  $\phi_p$  1.0 and  $=2.3$  for 0.02  $\phi_p$  0.111) monomeric friction factor( $f_{eff}$ ) free  
volume .  $\phi_p=0.033, 0.02$  ( $W_L$  0.037, 0.1)  
self-consistent(SC) DR ( $=2.0$  or  $=2.3$ )