CLAIMS

1. Process for enhancing the melt strength of polypropylene by heat treating said polypropylene at a temperature between 150°C and 300°C in the presence of 0.3-3 wt%, based on the weight of the polypropylene, of a dialkyl peroxydicarbonate having alkyl groups with 12-20 carbon atoms, wherein a hydrophilic silica with a silanol group concentration of at least 1.0 mmol Si-OH groups/g, as measured by $LiAlH_4$ titration, is added to said polypropylene before, during, or after said heat treatment, in a mole ratio Si-OH/dialkyl peroxydicarbonate of more than 0.5; wherein the process is conducted in the absence of polar solvent and in the absence of hydroxylethyl acrylate and hydroxyethyl methacrylate.

2. Process according to claim 1, wherein the mole ratio Si-OH/dialkyl peroxydicarbonate is more than 0.9.

3. Process according to claim 2, wherein the mole ratio Si-OH/dialkyl peroxydicarbonate is more than 1.0.

4. Process according to any one of claims 1 to 3, wherein the dialkyl peroxydicarbonate is dicetyl peroxydicarbonate or dimyristyl peroxydicarbonate.

5. Process according to claim 4, wherein the dialkyl peroxydicarbonate is dicetyl peroxydicarbonate.

6. Process according to claim 3, wherein the mole ratio Si-OH/peroxydicarbonate is in the range 1.0-8.0.

7. Process according to claim 6, wherein the mole ratio Si-OH/peroxydicarbonate is in the range 1.0-3.5.

8. Process according to any one of claims 1 to 7, wherein the process is conducted in the absence of an ethylenically unsaturated monomer having a polar group.

9. Process according to any one of claims 1 to 8, wherein the process is conducted in the absence of an ethylenically unsaturated monomer.

10. Process according to any one of claims 1 to 9, wherein the process is conducted in an extruder.

11. Process according to any one of claims 1 to 10, wherein the temperature is from 160 to 250°C.

12. Process according to any one of claims 1 to 11, wherein the hydrophilic silica is added before or during the heat treatment.