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## **Transparent Phosphosilicate Glasses Containing Crystals Formed During Cooling of Melts**

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Effect of P<sub>2</sub>O<sub>5</sub>-SiO<sub>2</sub> substitution on spontaneous crystallization of SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-P<sub>2</sub>O<sub>5</sub>-Na<sub>2</sub>O-MgO melts during cooling was studied by X-ray diffraction, differential scanning calorimetry and scanning electron microscopy. Results show that substitution of P<sub>2</sub>O<sub>5</sub> for SiO<sub>2</sub> enhances the structural polymerization of silicate-rich phase in the melts as a result of formation of orthophosphate complexes, and thereby the spontaneous crystallization of cubic Na<sub>2</sub>MgSiO<sub>4</sub> is also enhanced during cooling of the melts. In addition, the sizes of the local crystalline and separated glassy domains are smaller than the wavelength of the visible light, and this leads to the transparency of all the obtained glasses.