22. The process according to claim 2 or any of the claims 3 to 21 as far as they directly or indirectly refer to claim 2, wherein the polymer nanocomposites are cured in a subsequent step c*).

23. Use of rubber ionomers, cured or uncured polymer nanocomposites obtained by a process according to any one of claims 1 to 22 as part of a tire, an adhesive, as part of a thermoplastic elastomer, footwear, storage membrane, protective clothing, pharmaceutical stoppers, linings, and barrier coatings.

~~24. Use of a device comprising a least one extruder unit comprising at least one feeding point (12), at least one extruder degassing section (16), at least one accumulating section (20) and one outlet section (22), whereby each extruder degassing section (16) further comprises at least one vent port (15) connected to a vapour line (15.1) for the preparation of rubber ionomers and/or polymer nanocomposites.~~