

ABSTRACT OF THE INVENTION

5 Porous shaped articles made from a molded composite of
ultra high molecular weight polyethylene and
polyethylene wax are disclosed. These articles are
produced by free-sintering a non intensively mixed
blend of UHMW-PE particles and particles of a
polyethylene wax. The process involves mixing the
10 UHMW-PE and wax both in powdered form until a
heterogeneous mixture is formed, but under conditions
which do not lead to any substantial fracturing of the
UHMW-PE particles or melting of either component. The
heterogeneous mix is then transferred to a press mold
to form a shape and pressure is applied sufficient only
15 to maintain the enclosed volume of the shape. The mold
is heated to a temperature above the melting point of
the UHMW-PE for a period of time to allow the particles
to soften, expand, and contact one another at their
surfaces. The mixture is then quickly cooled.

20 Porous articles so produced may exhibit stiffness
values in excess of about 2000 psi while at the same
time showing excellent porosity values of less than
about 25 inches water pressure drop.

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