

A number of filler materials were used in varying combinations to produce the necessary low wear rate, hardness and high coefficient of friction. The fillers used were cast iron grit, kyanite, cashew nut particles, red iron oxide (hematite), black iron oxide, powdered alumina, graphite, barytes, coke, kaolin, cryolite, carbon black and zinc powder.

Examples of the mixes formulated and tested are shown below and denoted Mixes A-R. The compositions of ingredients are expressed in weight percentages.

		Weight %
MIX A		
Glass Fiber		3.02
Organic Binder		18.63
rubber	15.74	
resin	2.89	
Curative Agents		1.64
Filler Materials		76.71
iron grit	12.11	
kyanite	12.11	
powdered alumina	0.27	
black iron oxide	8.46	
barytes	21.21	
coke	22.55	
MIX B		
Glass Fiber		2.91
Organic Binder		17.25
rubber	14.47	
resin	2.78	
Curative Agents		1.62
Filler Materials		78.22
iron grit	23.37	
kyanite	11.68	
powdered alumina	0.26	
graphite	7.90	
barytes	20.42	
coke	11.68	
cryolite	2.91	
MIX C		
Glass Fiber		1.61
Organic Binder		16.98
rubber	12.03	
resin	4.95	
Curative Agents		1.54
Filler Materials		79.85
iron grit	24.54	
kyanite	13.99	
powdered alumina	0.48	
graphite	3.92	
barytes	17.11	
coke	14.99	
cryolite	4.82	
MIX D		
Glass Fiber		1.62
Organic Binder		17.18
rubber	14.59	
resin	2.59	