$$\begin{aligned}
\mathrm{Hom}_{\mathbf{C}}(f \fatsemi g)(z) &= (g_1 \fatsemi f_1) \fatsemi z \fatsemi (f_2 \fatsemi g_2) \\
&= g_1 \fatsemi (f_1 \fatsemi z \fatsemi f_2) \fatsemi g_2 \\
&= (f_1 \fatsemi z \fatsemi f_2) \fatsemi \mathrm{Hom}_{\mathbf{C}}(g) \\
&= (\mathrm{Hom}_{\mathbf{C}}(f) \fatsemi \mathrm{Hom}_{\mathbf{C}}(g))(z).
\end{aligned}$$