Formulating a Product Blending Problem

A manufacturer of plastics is planning to blend a new product by mixing four chemical compounds. Each compound contains three chemicals A, B, and C in different percentages. Table 1 gives for each compound its cost $/kg and the % of each chemical in it.

Table 1	Comp 1	Comp 2	Comp 3	Comp 4
% of A	30	10	35	25
% of B	20	65	35	40
% of C	40	15	25	30
$/kg	20	30	20	30

The new product must contain 25% of element A, at least 35% of element B, and at least 20% of element C. Moreover, to avoid side effects compounds 1 and 2 cannot exceed 25% and 30% of the total, respectively. Formulate a problem to solve what is the cheapest mix of compounds for blending one kg of the product?