

Council Directive of 26 February 1973 on the approximation of the laws of the Member States relating to the quantitative analysis of ternary fibre mixtures (73/44/EEC) (repealed)

## ANNEX II

EXAMPLES OF THE CALCULATION OF PERCENTAGES OF THE  
COMPONENTS OF CERTAIN TERNARY MIXTURES USING SOME  
OF THE VARIANTS DESCRIBED IN POINT I.8.1 OF ANNEX I

## VARIANT 4

Consider the case of a fibre mixture which when qualitatively analysed gave the following components: carded wool, viscose, unbleached cotton.

Suppose that using variant 4, that is successively removing two components from the mixture of one single specimen, the following results are obtained:

1.	Dry mass of the specimen after pre-treatment	$(m_1) = 1.6000 \text{ g}$
2.	Dry mass of the residue after the first treatment with alkaline sodium hypochlorite (viscose + cotton):	$(r_1) = 1.4166 \text{ g}$
3.	Dry mass of the residue after the second treatment of the residue $r_1$ with zinc chloride/formic acid (cotton):	$(r_2) = 0.6630 \text{ g}$

Treatment with alkaline sodium hypochlorite does not entail any loss of mass in viscose, while unbleached cotton loses 3 %, therefore  $d_1 = 1.0$  and  $d_2 = 1.03$ .

As a result of treatment with zinc chloride/formic acid, the mass of cotton increases by 4 %, so that  $d_3 = (1.03 \times 0.96) = 0.9888$  rounded to 0.99, ( $d_3$  being the correction factor for the respective loss or increase in mass of the third component in the first and second reagents).

If the values obtained by chemical analysis and the correction factors are substituted in the formulae given in point I.8.1.4 of Annex I the following result is obtained:

$$P_{2\%}(\text{viscose}) = \frac{1.0 \times 1.4166}{1.6000} \times 100 - \frac{1.0}{1.03} \times 40.98 = 48.75 \%$$

$$P_{3\%}(\text{cotton}) = \frac{0.99 \times 0.6630}{1.6000} \times 100 = 41.02 \%$$

$$P_1(\text{wool}) = 100 - (48.75 + 41.02) = 10.23 \%$$

As has already been indicated for variant 1, these percentages must be corrected by the formulae indicated in point I.8.2 of Annex I.

$$P_1 A(\text{wool}) = \frac{10.23 \times \left(1 + \frac{17.00 + 0.0}{100}\right)}{10.23 \times \left(1 + \frac{17.00 + 0.0}{100}\right) + 48.75 \times \left(1 + \frac{13 + 0.0}{100}\right) + 41.02 \times \left(1 + \frac{8.5 + 4.0}{100}\right)} \times 100 = 10.57\%$$

$$P_2 A(\text{viscose}) = \frac{48.75 \times \left(1 + \frac{13 + 0.0}{100}\right)}{113.2041} \times 100 = 48.65 \%$$

$$P_3 A(\text{cotton}) = 100 - (1057 + 4865) = 4078 \%$$

The composition of the mixture is therefore:

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*Status: This is the original version (as it was originally adopted).*

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Viscose	48·6 %
Cotton	40·8 %
Wool	10·6 %
	100·0%