

# Material routing effects

The first column is where the material is defined and if is defined with *service* true or false. The other columns are the different effect regarding the unit of measure of the material, for each cell: the first field is the destination volume; the second is the amount of material in grams; the third specify if the material is accumulating along the layer/disk; the fourth specify if the material is converted after the layer/disk or only stay in the layer/disk; the fifth if is possible or not to set the scaling on channels.

	Unit= <i>g/m</i>	Unit= <i>mm</i>	Unit= <i>g</i>
Module Service=false	Module $\times moduleLength$ No accumulation No conversion Scaling possible	Module $\times moduleSurface \times \rho$ (sensor surface) No accumulation No conversion Scaling possible	Module $\times 1$ No accumulation No conversion Scaling possible
Module in ring $R^1$ Service=true <sup>2</sup>	Following supports $S_{R+1} \dots S_i \dots S_N$ $\times numModules_R \times supportLength_i$ Accumulation Conversion(1:1 by default, with warning) Scaling possible	Following supports $S_{R+1} \dots S_i \dots S_N$ $\times supportSurface_i \times \rho$ Accumulation Conversion(1:1 by default, with warning) Scaling possible Deprecated warning	Error
Rod (barrel <sup>3</sup> ) Service=false	All supports $S_1 \dots S_i \dots S_N$ $\times numModules_1 \times supportLength_i$ No accumulation No conversion Scaling not possible	All supports $S_1 \dots S_i \dots S_N$ $\times supportSurface_i \times \rho$ No accumulation No conversion Scaling not possible	All supports $S_1 \dots S_i \dots S_N$ $\times numModules_1 \times \frac{supportLength_i}{\sum_{j=1}^N supportLength_j}$ No accumulation No conversion Scaling not possible
Rod (barrel) Service=true <sup>2</sup>	All supports $S_1 \dots S_i \dots S_N$ $\times numModules_1 \times supportLength_i$ No accumulation Conversion Scaling not possible	All supports $S_1 \dots S_i \dots S_N$ $\times supportSurface_i \times \rho$ No accumulation Conversion Scaling not possible Deprecated warning	Error
Layer/Disk Service=false	All supports $S_1 \dots S_i \dots S_N$ $\times supportLength_i$ No accumulation No conversion Scaling not possible	All supports $S_1 \dots S_i \dots S_N$ $\times supportSurface_i \times \rho$ No accumulation No conversion Scaling not possible	All supports $S_1 \dots S_i \dots S_N$ $\times \frac{supportLength_i}{\sum_{j=1}^N supportLength_j}$ No accumulation No conversion Scaling not possible
Layer/Disk Service=true <sup>2</sup>	All supports $S_1 \dots S_i \dots S_N$ $\times supportLength_i$ No accumulation Conversion Scaling not possible	All supports $S_1 \dots S_i \dots S_N$ $\times supportSurface_i \times \rho$ No accumulation Conversion Scaling not possible Deprecated warning	Error

	Modules	Cylind. service sections	disk service section
Length	Local $y$	$\Delta z$	$\Delta r$
Surface	Sensor surface	$2\pi r \Delta z$	$\pi(r_2^2 - r_1^2)$

<sup>1</sup>of  $N$  rings

<sup>2</sup>may be converted by station

<sup>3</sup>line of one module per ring with same  $\phi$