MASS BALANCE ALLOCATION



Advancing the Use of Recycled Materials

Accounting for System Losses

For the sake of simplicity, the examples presented here do not reflect any losses from the manufacturing process. In practice, very few processes have 100% conversion efficiency. Participants must take conversion losses into account. The RMS promotes true circularity of polymers by treating any material used or sold as fuel as a system loss. There are other standards in use that do not use this same rigor.

Mass Balance Claim

Mass balance claims use an accounting process (sometimes referred to as a credit system) to assign claims to particular product batches. The allocation can be made at different equivalencies to help support customer needs as shown below (*Fig 2*). The flexibility afforded by mass balance accounting enables market growth for both mechanical and chemical recycling pathways.

greenblue

The RMS is the most comprehensive third party standard available for recycled materials. The standard includes several accounting methods to help advance the use of recycled materials. When recycled materials are quantified through controlled blending at a batch level, we refer to this as an average content claim. The RMS also includes an accounting method known as mass balance allocation. Each of these approaches are illustrated below.









MASS BALANCE ALLOCATION



Trusted Methodology

The mass balance allocation approach has been used by many other sustainability standards, in some cases for several decades. Examples include wood products (FSC, SFI and PEFC), cocoa, palm oil, sustainable biomaterials and more. The mass balance methodology is endorsed by numerous NGOs and trade associations and is also defined within ISO standards.



Average Content Label



Mass Balance Label



Mass Balance (B2B Only)



Documentation is Key to Auditability

Claims must be supported through documented transactions between certified RMS participants to maintain chain of custody. A specific syntax for claims identifies the recycled material status (post consumer or post industrial) the amount of the claim (expressed as a percentage), as well as the accounting system employed.

Labeling is Optional

Using labels on products or packaging is optional and each type of claim has different thresholds for eligibility. Furthermore, each type of accounting system has a unique type of claim on labels to support full transparency and consistency with environmental marketing rules.

The Mix Label

When using mass balance for consumer facing claims, it is not possible to guarantee a certain percentage of material in the final product. As such many standards, including the RMS, have adopted the use of a "mix" claim.

Business to Business Labeling

For products certified using the mass balance method that are part of business transactions between certified supply chain participants, claims may reflect the percentage of PCR allocated. The B2B label may not be used on packaging or products sold to consumers nor on materials sold to entities that are not RMS certified.

