



Best Practices in Scrap Tires & Rubber Recycling

***Applications in Tires for Recycled Rubber
(Passenger and Light Truck)***

***Material: Recycled Rubber from Tires, Industrial Scrap
Rubber, and Post-Consumer Scrap Rubber Products***

Issue: *Tires are the single largest user of rubber, fillers, oil and other compounding materials. The different compounds used to make tires can have recycled rubber added at typically 3-5% depending on the application area.*

Best Practice: The following table describes current or potential application sites for using recycled rubber in tire compounds. The table is limited to passenger car and light truck tires:

	Passenger Tires		Light Truck Tires	
	Bias	Radial	Bias	Radial
Treads	Yes	Yes (1)	Unlikely (1)	Yes
Subtreads	Unlikely (1)	No	Unlikely (1)	No
Carcasses	Yes	Yes	Yes	Yes
Bead Filler	Yes	Yes	Yes	Yes
Sidewalls	Yes	No	No	No
Wedges	Yes	Yes	Yes	Unlikely (1)
Squeegees	Yes	Unlikely (1)	Yes	Unlikely (1)
Apex	Yes	Yes	Yes	Unlikely (1)
Filler Strips	Yes	Yes	Yes	Yes
Wire Skim	Not Applicable	No	Not Applicable	No
Liner	Yes	Yes	Yes	Yes

(1) High dynamic performance requirements of this component make it unlikely, but recycle might be used in some limited low demand tire applications.

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The tread, subread, carcass, and sidewalls are the largest single components of the tire. The areas that represent the best prospect for the use of ground recycled rubber in the tire are the carcass, apex, wedges, filler strips, and squeegees.

Implementation: Recycled materials must be considered in the original development of the tires. Therefore efforts to incorporate recycled rubber must begin with original compound testing and evaluation.

Benefits: The major benefits are cost reduction and less air entrapment during the molding operation.

Application Sites: Include all of the major tire manufacturers: Goodyear Tire & Rubber, Akron, OH; Bridgestone/Firestone Tire & Rubber, Akron, OH; Michelin Tire, Greenville, SC; Continental-General, Akron, OH; Dunlop Tire & Rubber, Buffalo, NY; Pirelli Armstrong, New Haven, CT; Cooper Tire, Findlay, OH; Denman Tire, Warren, OH; and Specialty Tire, Indiana, PA.

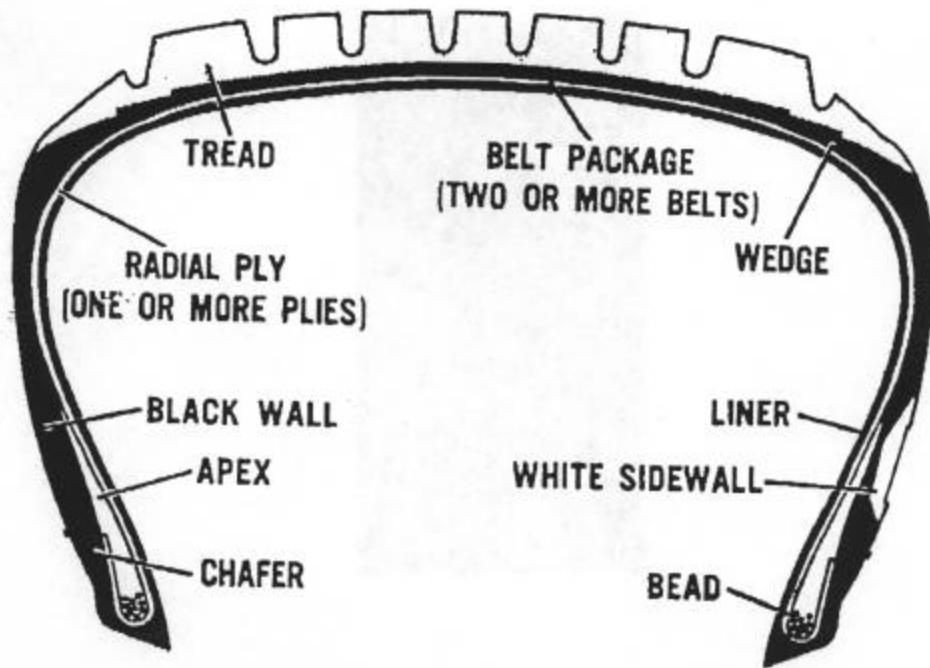
Contact: For more information about this Best Practice, contact the CWC at (206) 443-7746, email info@cwc.org.

References:

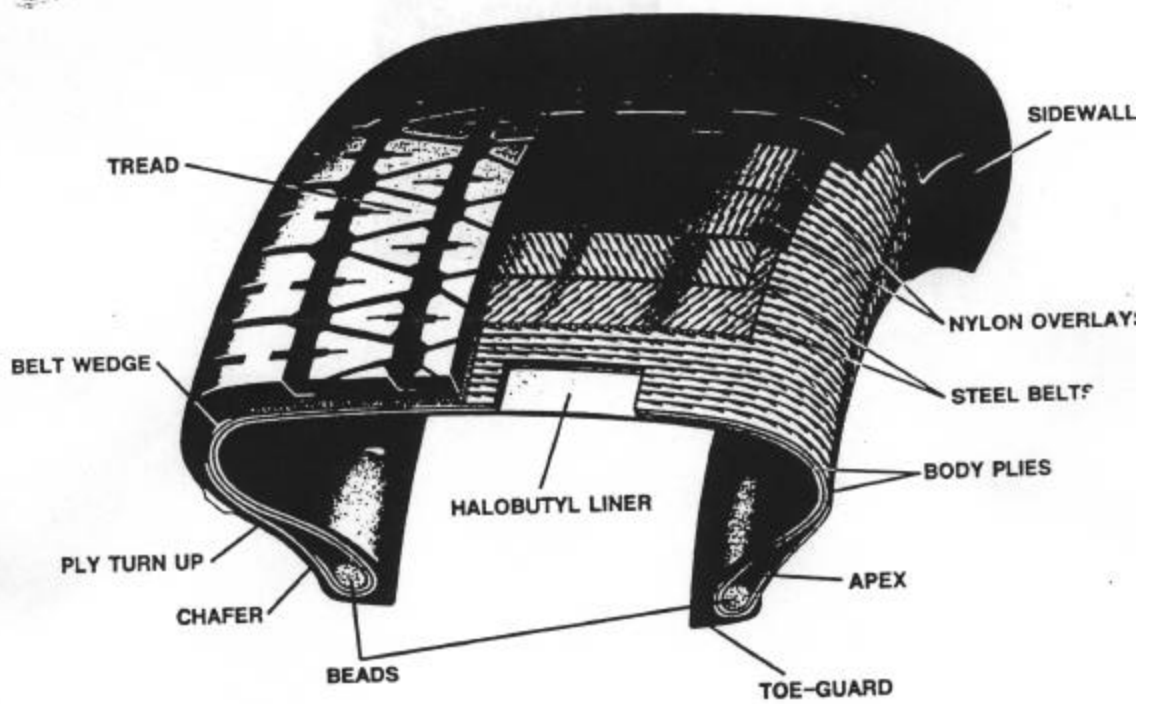
1. "Tires as a Source of Raw Materials & Uses of Recycled Rubber", Smith, Klingensmith, ACS Rubber Division Conference, Spring 1990, Washington DC (Submitted Paper).
2. Rubber & Plastics News - Tire Edition.
3. Jenkins, Frank, Continental-General (Retired).
4. Klamp, Walter, Dunlop (Retired).
5. Goodyear Tire & Rubber, Akron, OH.
6. Bridgestone/Firestone Tire & Rubber, Akron, OH.
7. Michelin Tire, Greenville, SC.

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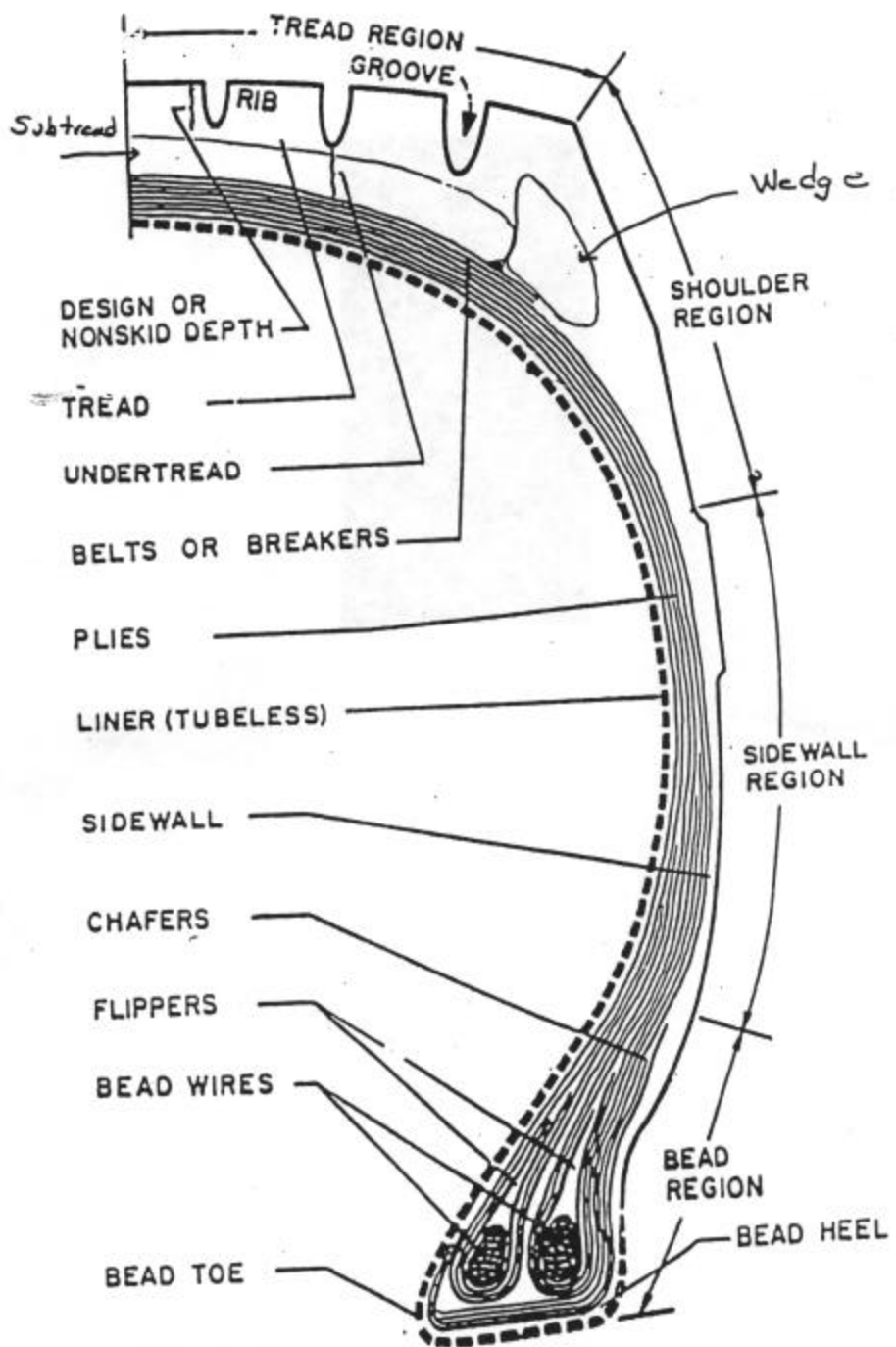




cross section of radial passenger tire



Cross section of a high-performance passenger tire.



Truck Tire Structural components.