

COST/BENEFIT ANALYSIS - ASW Steel Tires vs. Inflated Rubber Tires (400 T)

	Inflated Rubber Tires (2079R63)		ASW Steel Tires (2047E3)	
	CAT 797F	Notes	CAT 797F	Notes
Tuck Model	6		6	
Number of Tires/year	1		1	
Spare/year	7		6	
Total Tires/year	7		6	
Tires Purchased/Used over 10 years	70		6	
Wearout Life (hours)	6,700	Optimistic wearout estimate - one year of truck operating hours with 90% avail, 85% utilz, and a tire management program in place to minimize failures. No reduction factored in for premature failures.	87,600	One set of steel tires has a 10-year life.
Cost/Tire	\$110,000		\$275,000	First year tread (costing \$ 55,000) is included. 2.5x rubber tire price.
Cost/Truck/year	\$70,000	Annual tire cost for 1 truck	\$1,705,000	First year only, 6 steel tires with treads, shipped with the steel tires
			\$110,000	Two more tread and liner replacements- 40 months apart during reflagings
Cost/Truck - 10 years	\$7,700,000	Total tire cost over 10 years assuming no further increases in rubber prices or manufacturing costs.	\$1,815,000	Total tire cost over 10 years
Hard Dollar Cost Savings/Truck/10 years			\$5,885,000	Pays for a new haul truck (and a new fleet) every 10 years for FREE at current rubber prices.
Reduction in Cost Cost/truck/year			\$770,000	10-year amortization schedule
Increase in DO&A/truck/year			\$183,500	
Net Full Cost Impact/truck/year			\$586,500	
Increase in Cost due to Tire Changes - 8 lost hours /tire change over 10 years	\$1,820,000	Assumes 20S Cu one grade, 92% mill recovery, 98% smelter recovery, 2 load/hr, 5.50/lb margin, no by-product credits	\$0	No cost reduction for tire changes - zero changes in 10 years
Reduction in Cost due to Tire Changes - 4 gained hours/tire change over 10 years	\$0	No cost reduction for tire changes - zero changes in 10 years	-\$832,000	Rim reuse/recycle credit- Rims removed are used to mount rubber tires on an other truck beforehand in shop, turns slow tire changes to fast wheel changes on one truck for 9 years (10 years minus first year)
Total Cost - 10 years	\$9,520,000		\$983,000	
% Saved over 10 YEARS			90%	

Base Price List Effective July 1, 2009, subject to change without notice.

VRD
ROCK DEEP TREAD PROVIDES SUPER CUT RESISTANCE
PREMIUM DEPTH FOR LONG RUNNING MILEAGE PERFORMANCE
INNOVATIVE RIBBON GROOVES THAT REDUCE HEAT DISSIPATION

E-3
 The E-STEEL ROCK DEEP premium radial tire provides durability and great performance in hot, heavy conditions requiring innovative technology for high speed operations.

SECTION	SIZE	LOADING INDEX	CONSTRUCTION	TRAILER	REAR AXLE	FRONT AXLE	EST. WEIGHT	EST. PRICE
Super Traction	20R225D	27	11A	113	47700	11,800	100	107,000.00
	20R225D	27	11A	113	47700	11,800	100	107,000.00

Sample inflated rubber tire price, assumed to be unchanged in 7 years since 2009.

COST/BENEFIT ANALYSIS - ASW Steel Tires vs. Inflated Rubber Tires (250 T)

	Inflated Rubber Tires (40,00R57)		ASW Steel Tires (4040E7)	
	CAT 797F	Notes	CAT 797F	Notes
Tuck Model	6		6	
Number of Tires/year	1		1	
Spare/year	7		6	
Total Tires/year	7		6	
Tires Purchased/Used over 10 years	70		6	
Wearout Life (hours)	6,700	Optimistic wearout estimate - one year of truck operating hours with 90% avail, 85% utilz, and a tire management program in place to minimize failures. No reduction factored in for premature failures.	87,600	One set of steel tires has a 10-year life.
Cost/Tire	\$75,000		\$195,000	First year tread (costing \$ 30,000) is included. 2.6x rubber tire price.
Cost/Truck/year	\$525,000	Annual tire cost for 1 truck	\$1,225,000	First year only, 6 steel tires with treads, shipped with the steel tires
			\$60,000	Two more tread and liner replacements- 40 months apart during reflagings
Cost/Truck - 10 years	\$5,250,000	Total tire cost over 10 years assuming no further increases in rubber prices or manufacturing costs	\$1,285,000	Total tire cost over 10 years
Hard Dollar Cost Savings/Truck/10 years			\$9,965,000	Pays for a new haul truck (and a new fleet) every 10 years for FREE at current rubber prices.
Reduction in Cost Cost/truck/year			\$525,000	10-year amortization schedule
Increase in DO&A/truck/year			\$128,500	
Net Full Cost Impact/truck/year			\$396,500	
Increase in Cost due to Tire Changes - 8 lost hours /tire change over 10 years	\$1,820,000	Assumes 20S Cu one grade, 92% mill recovery, 98% smelter recovery, 2 load/hr, 5.50/lb margin, no by-product credits	\$0	No cost reduction for tire changes - zero changes in 10 years
Reduction in Cost due to Tire Changes - 4 gained hours/tire change over 10 years	\$0	No cost reduction for tire changes - zero changes in 10 years	-\$832,000	Rim reuse/recycle credit- Rims removed are used to mount rubber tires on an other truck beforehand in shop, turns slow tire changes to fast wheel changes on one truck for 9 years (10 years minus first year)
Total Cost - 10 years	\$7,070,000		\$453,000	
% Saved over 10 YEARS			94%	