

CEB:ELS  
VII-3

DEPARTMENT OF COMMERCE  
BUREAU OF STANDARDS  
Washington, D.C.

Letter  
Circular  
LC 24

(February 9, 1923)

TESTS OF PNEUMATIC TIRES & INNER TUBES.

In the Spring of 1922, the various tire companies were requested by the Federal Purchase Board to submit samples of their tires and inner tubes, to be in accordance with Bureau of Standards Circular 115, to the end that they might be placed on the government list, as being eligible to bid for government business.

The Bureau has compiled the results of the tests made on these tires and inner tubes in two tables inclosed herewith. The tests were made in the manner described in Circular No. 38, of the Bureau of Standards, and the results include the complete physical tests and chemical analysis.

It is thought that this information may be of value to the industry.

BUREAU OF STANDARDS.



Lab No.	Size	Color	Pole Diameter	Thickness	Length	Tensile Strength Lb per sq. in	Ult. Elong %	Set %	Act Ext (Corr)	Total Sulphur	R. as compound	R. by vol.	Ratio Act Ext R.	Ratio S/R.
CLASS A														
2393	30x3 1/2	Grey	2.10	.090	8 1/2	3215	810	0	41	4.1	89.4	94.0	4.6	4.6
2658	30x3 1/2	Brown	2.10	.065	Section	3060	740	8.0	4.1	6.4	79.6	90.9	5.2	8.0
2296	33x4	Grey	2.38	.077	88 1/2	2015	760	4.0	3.0	2.5	86.1	95.3	3.5	2.9
2444	30x3 1/2	Grey	2.18	.073	8 1/2	2865	865	0	2.8	5.4	91.4	93.5	3.1	5.9
2452	30x3 1/2	Grey	2.24	.069	79 3/4	2430	775	0	2.5	3.2	86.3	94.6	2.9	3.7
2377	30x3 1/2	Brown	2.20	.090	80	2960	730	2.0	2.6	2.9	89.7	92.9	2.8	3.2
2448	30x3 1/2	Grey	2.09	.072	79 3/4	2080	720	2.0	2.5	3.0	86.3	93.6	2.9	3.5
2461	30x3 1/2	Grey	2.15	.078	8 1/8	2545	765	2.0	5.3	4.5	71.5	89.0	7.4	6.3
2365	30x3 1/2	Green	2.20	.078	8 1/8	2895	780	0	3.3	2.0	89.7	91.7	3.7	2.3
2798	30x3 1/2	Grey	2.12	.077	8 1/2	1960	830	7.0	2.8	3.0	77.5	89.9	3.6	3.9
2593	30x3 1/2	Grey	2.40	.088	Section	2420	840	2.0	2.8	4.4	82.3	91.8	3.4	5.3
2594	30x3 1/2	Grey	2.25	.073	82 3/4	2180	860	2.0	2.3	4.1	81.2	90.9	2.8	5.1
2479	30x3 1/2	Grey	2.10	.089	82 1/4	1840	965	2.0	3.4	5.3	92.2	91.8	3.7	5.7
2317	30x3 1/2	Grey	2.21	.064	82 1/2	2450	900	0	3.2	4.4	93.2	94.4	3.4	4.7
2504	30x3 1/2	Grey	2.14	.082	80 3/4	2580	815	0	3.9	5.3	89.8	91.8	4.7	6.3
2323	30x3 1/2	Grey	2.12	.074	82 3/4	1935	805	2.0	2.7	3.3	92.9	94.1	2.9	3.6
2409	30x3 1/2	Grey	2.10	.080	81 1/2	2740	810	0						
2410	30x3 1/2	Grey	2.22	.084	81 1/2	1900	870	0	3.0	4.9	94.5	95.4	3.2	5.2
2807	33x4	Grey	2.65	.092	90 3/8	2895	765	4.0	1.6	2.8	87.1	93.6	1.8	5.2
2380	30x3 1/2	Grey	2.48	.088	80 3/4	2345	780	1.0	2.6	3.5	89.3	93.1	2.9	3.8
2403	30x3 1/2	Grey	2.09	.086	83 3/4	2655	770	0	2.3	4.6	83.4	86.2	2.8	5.5
2696	30x3 1/2	Grey	2.26	.095	82 1/4	3000	805	1.0	3.0	3.7	90.8	94.7	3.3	4.1
2641	30x3 1/2	Grey	2.20	.070	82	2600	755	5.0	2.3	3.3	85.5	89.1	2.7	3.9
2435	30x3 1/2	Black	2.28	.088	84 1/2	2655	825	0	3.1	2.7	87.5	91.4	3.5	3.1
2398	30x3 1/2	Grey	2.03	.070	81 1/2	2430	765	1.0	2.1	2.6	84.7	91.9	2.5	3.1
2400	35x5	Red	3.60	.115	38 1/2	2180	770	0	2.1	2.4	84.6	92.7	2.5	2.5
2515	30x3 1/2	Red	2.68	.086	80 3/4	2735	790	0	3.3	2.6	90.3	95.3	3.7	2.9
2368	30x3 1/2	Grey	2.11	.076	82	2570	850	2.0	1.9	2.6	71.1	90.3	2.7	3.7
2883					Section	2935	800	1.0	2.1	3.8	89.9	93.2	2.3	4.2
2359	30x3 1/2	Grey	2.25	.091	84 1/2	3140	780	0	3.8	3.8	88.9	93.4	3.7	4.3
2289	30x3 1/2	Grey	2.12	.088	82 1/4	2670	830	0	3.1	4.2	88.8	94.4	3.5	4.7
2457	30x3 1/2	Grey	2.20	.094	80 1/2	2775	805	0	3.5	4.8	90.6	94.0	3.9	5.3
2465	30x3 1/2	Grey	2.06	.078	80 3/4	2550	775	0	3.1	3.2	87.0	94.4	3.6	3.7
2510	30x3 1/2	Grey	2.30	.074	81 3/8	2430	785	0	3.3	4.1	87.2	92.1	3.8	4.7
2625	30x3 1/2	Grey	2.14	.086	82	2375	860	1.0	3.0	5.8	93.5	95.9	3.2	6.2
2306	30x3 1/2	Grey	2.06	.086	80 3/4	2665	755	7.0	3.2	3.5	80.1	92.0	4.0	4.4
2386	30x3 1/2	Grey	2.02	.073	81 1/8	1855	950	0	2.8	3.9	95.2	96.6	2.8	4.1
2484	28x3	Grey	1.86	.091	76 1/2	1900	950	4.0	3.0	6.5	80.1	92.5	3.3	7.2
CLASS B														
2470	30x3 1/2	Red			82 1/2	2380	830	4.0	1.8	3.9	78.8	90.5	2.3	5.0
2373	30x3 1/2	Red	2.08	.073	81 1/2	2420	875	1.0	1.8	3.5	85.1	91.4	2.1	4.1
2385	30x3 1/2	Red	2.07	.083	81 1/2	2920	765	0	2.8	4.1	79.1	89.2	3.6	5.2
2588	30x3 1/2	Red	2.11	.078	80 1/2	2220	950	3.0	2.7	3.8	87.8	92.0	3.1	4.4
2363	30x3 1/2	Red	2.20	.075	80 3/4	2540	775	6.0	2.2	5.0	74.2	87.6	3.0	6.7
2660	30x3 1/2	Red	2.10	.072	Section	3120	750	8.0	4.7	3.6	79.8	90.1	5.9	4.1
2442	30x3 1/2	Red	2.18	.091	82 3/4	2810	785	0	2.7	4.3	87.3	93.8	3.1	4.8
2285	33x4	Red	2.49	.083	89	2620	885	3.0	1.8	3.4	85.4	91.8	2.2	4.0
2475	30x3 1/2	Red	2.06	.073	83 1/2	2380	880	7.0	2.6	3.4	82.3	93.3	3.2	4.1
2605	30x3 1/2	Red	2.32	.086	80 1/2	2680	775	0	3.4	2.3	88.5	99.4	3.8	2.6
2326	30x3 1/2	Red	2.10	.078	81 1/2	2345	800	2.0	2.5	3.5	85.8	92.2	2.9	4.1
2808	33x4	Red	2.65	1.08	90 3/4	2640	735	5.0	2.8	2.9	85.1	93.3	3.3	3.4
2300	30x3 1/2	Red	2.19	.085	82 3/4	3550	790	0	1.9	2.8	75.3	88.8	2.5	3.9
2382	30x3 1/2	Red	2.04	.083	79	2345	780	2.0	2.6	4.8	85.9	90.4	2.9	5.6
2153	35x5	Red	3.88	.165-620	81 1/2	2315 1815	860 810	7.0 6.0	3.7 3.5	3.7 2.5	83.1 81.0	91.7 93.1	3.7 4.9	6.7 3.1
2497	36x6	Red	4.45	.150	Section	2280	890	8.0	2.8	4.7	90.0	91.3	3.5	5.9
2367	30x3 1/2	Red	2.10	.076	82	2380	880	7.0	2.6	3.4	82.3	93.3	3.2	4.1
2328	30x3 1/2	Red	2.19	.089	79 1/2	3265	810	1.0	2.7	2.9	89.7	94.7	3.0	3.2
2388	30x3 1/2	Red	2.00	.078	81 1/2	1870	850	5.0	3.0	4.0	84.2	92.3	3.6	4.8
2485	30x3 1/2	Red	2.20	.087	81 1/2	3835	780	6.0	2.7	2.8	78.8	91.1	3.4	3.6

Pure Gum

Antimony



Date	Time	No. of Runs	Direction	Pressure of Steam		Temperature of Steam		Temperature of Water		Pressure of Water		Revolutions of Piston		Speed		Consumption of Steam		Consumption of Water		Remarks	Lat. Long.	
				Gauge	Bar	Surface	Center	Surface	Center	Surface	Center	Surface	Center	Surface	Center	Surface	Center	Surface	Center			
1872	21	21	S	100	102	150	155	130	135	10	12	10	12	10	12	10	12	10	12	Clear	35° 35'	122° 15'
1873	21	21	S	100	102	150	155	130	135	10	12	10	12	10	12	10	12	10	12	Clear	35° 35'	122° 15'
1874	21	21	S	100	102	150	155	130	135	10	12	10	12	10	12	10	12	10	12	Clear	35° 35'	122° 15'

Date	Time	No. of Runs	Direction	Pressure of Steam		Temperature of Steam		Temperature of Water		Pressure of Water		Revolutions of Piston		Speed		Consumption of Steam		Consumption of Water		Remarks	Lat. Long.	
				Gauge	Bar	Surface	Center	Surface	Center	Surface	Center	Surface	Center	Surface	Center	Surface	Center	Surface	Center			
1875	21	21	S	100	102	150	155	130	135	10	12	10	12	10	12	10	12	10	12	Clear	35° 35'	122° 15'
1876	21	21	S	100	102	150	155	130	135	10	12	10	12	10	12	10	12	10	12	Clear	35° 35'	122° 15'
1877	21	21	S	100	102	150	155	130	135	10	12	10	12	10	12	10	12	10	12	Clear	35° 35'	122° 15'





