

C O P Y

July 13, 1931

Aroclor Testing

Mr. Felix Williams
Mr. Howerton

We wish to change the test procedure for Westphal specific gravity determinations on Aroclors. Previously determinations have been made by setting Westphal at 1.000 when plummet is immersed in water at standard temperature, then with Westphal at this adjustment to immerse the plummet in Aroclor at the same temperature and take the reading.

The procedure we wish to use is to balance the Westphal with plummet in air, then obtain readings with the plummet first in Aroclor and second in water. The first reading divided by the second reading gives the specific gravity. The second reading (in water) is, of course, constant for any given temperature.

The revised procedure gives specific gravity correctly for any indicated temperatures such as 65°/65° or 90°/90°. The procedure used heretofore is faulty in that the figures obtained are comparative only and not accurate specific gravities.

Since all past data is based on the water adjustment method, we have determined the specific gravities of all Aroclors by the two methods to show what differences exist in order that proper allowances may be made in duplicating previous figures and in making comparisons.

Please advise if there are objections to change in method of test not covered by the data supplied regarding effect of this change.

A. B. Garber

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Sept. 7, 1931
JRW

DSW 312204

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E O P Y

SPECIFIC GRAVITY OF ARCELORS

Standardizing in Air and Standardizing In Water

	<u>Arceclor</u>	<u>Sample No.</u>	<u>In H₂O</u>	<u>In Air</u>	<u>Difference</u>
Temp. 65/65°	1119	1	1.1335	1.1291	.0026
" "		2	1.1335	1.1354	.0019
" "	1142	1	1.3695	1.3771	.0076
" "		2	1.366	1.3736	.0076
" "	1248	1	1.423	1.4308	.0078
" "	1154	1	1.5265	1.5354	.0089
" "		2	1.524	1.5329	.0089
" 99/90°	1160	1	1.597	1.6170	.0200
" "		2	1.592	1.6125	.0203
" "	1162	1	1.621	1.6434	.0224
" "		2	1.616	1.6377	.0217

Sp. Gr. of H₂O at 65°C .9828

Sp. Gr. of H₂O at 90°C .9672

When the old method of standardizing the balance was run, the old weights that had been in service were used.

A set of new weights were used when the Westphal was standardized in air.

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