NRMCA Quality Benchmark Report

2026

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NATIONAL READY MIXED CONCRETE ASSOCIATION
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2026 NRMCA Quality Benchmark Report

INTRODUCTION

The NRMCA Quality Benchmark Report is published annually based on information from the Quality Award applications received in May-June of each year. Results of 2026 benchmark statistics are compiled from the 2026 award application. Recent year information is included for most sections to illustrate trends. Some benchmarks are reported for the first time in this report. Award applications are completed by NRMCA member company ready mixed concrete producers, representing the whole company or a division of the company. This report is supported by the NRMCA Research Engineering and Standards Committee.

This report establishes benchmarks for various aspects of a company's quality management system. For some benchmarks the weighted average is reported, which is determined by multiplying the percent of each company's production relative to the total and the individual company's statistic.

For this survey, respondents were asked to use data from the most recent fiscal year. Respondents were asked to avoid guessing and not to respond to questions where information was not available. There were 51 Award applicants in the 2026 compared to 49 in 2025.

The 2026 NRMCA Quality Benchmark Report summarizes quality management practices and performance indicators from 51 applicants representing approximately 51 million cubic yards of annual ready mixed concrete production. Several benchmarks indicate continued emphasis on quality, with 90% of respondents conducting annual internal audits, 84% supporting more than eight hours of technical continuing education, and 94% verifying yield at least weekly. The weighted average concrete rejected at the jobsite decreased from 0.68% to 0.54% of production, while concrete associated with internal quality issues decreased from 1.3% to 0.45%. Scale accuracy verification remains an opportunity for improvement, with 57% of respondents demonstrating compliance with ASTM C94 requirements based on submitted documentation. These results provide a useful basis for comparing company practices and identifying opportunities for continued quality improvement.

SECTIONS

Survey Sample Size / Annual Concrete Volume (cubic yards)

The applicant participants produced a total 51 million cubic yards representing approximately 14% of estimated ready mixed concrete produced in the US in 2025. Entity with the smallest volume produced 74,000 yd^3 while the entity with the largest volume produced 5.5 million yd^3. Of the 51, 28 had annual production exceeding 500,000 yd^3. The breakdown of the company annual concrete volume for this and previous surveys is as follows:

Annual Concrete Volume, yd^3	**Number of Respondents**					
	2026	**2025**	**2024**	**2023**	**2022**	**2021**
≤ 100,000	1	0	1	1	2	1
100,00 to 250,000	6	3	8	8	7	8
250,000 to 500,000	16	12	10	7	7	8
500,000 to 1 Million	12	13	14	12	11	10
1 to 3 Million	14	12	14	17	17	16
> 3 Million	2	3	4	2	3	2
Total Respondents	**51**	**49**	**51**	**47**	**47**	**45**
Survey Total, million yd^3	**50.8**	**52.2**	**59.6**	**57.5**	**59.5**	**55.2**

Quality Management System

1. Quality Management System Responsibility

Responsibility for establishing details, budget, and implementation of Company’s Quality Management System:

Responsible Entity	**Percent of Respondents**
	2026
Executive (Pres, GM)	20
Corp./Div. Technical Manager	69
QC/Lab Tech, HR, Sales, Ops, Plnt mgr	12
Did not respond	0

2. Quality Management System Management

Reason or criteria for reviewing and updating Company's Quality Management System:

Reasons	**Percent of Respondents**
	2026
Annual exercise	43
Number/Type of customer complaints	0
Internal Audit requiring process changes	37
Achievment of qualty objective(s)	20
Did not respond	0

3. Frequency of internal quality audits to verify conformance to Company's quality manual.

The internal audit process that was documented was not consistent, but the frequency is reported. Some inconsistencies noted: internal audit of labs; documentation of internal audits was a minimal checklist with no detail or corrective action listed; in some cases the audits were by an external entity.

Frequency of Audit	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
None	0	4	6	4	2	0
Annually	90	90	92	94	87	89
> Annually	10	6	2	2	11	9
Did not respond	0	0	0	0	0	2

4. Quality costs, in $ / yd^3 produced

Include lab costs, all overhead, and all quality control staff salaries including corporate-level technical managers. Do not include back charges or penalties

The weighted average of quality costs was calculated as \$1.61/yd^3 compared to \$1.45/yd^3 in 2025. The breakdown was as follows:

Quality Cost to Company. $/yd^3	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
0.00	0	0	0	0	0	0
≤ 0.75	8	4	10	15	15	18
> 0.75 to 1.25	20	20	35	38	40	40
> 1.25 to 1.75	33	39	25	17	17	11
> 1.75	31	29	24	17	15	22
Did not respond	8	8	6	13	13	9

5. Customer Complaint Resolution

Responsibility for resolution of customer quality-related complaints within the company or division?:

Responsible Entity	Percent of Respondents
	2026
Dispatcher / Plant operator	0
Technical Services Staff	59
Centralized customer service rep	8
Sales Manager	33
Did not respond	0

Company Personnel

6. Quality Control Department Reporting Structure

Technical Director or Quality Control Manager reports to:

Reporting Entity	Percent of Respondents
	2026
Executive (CEO, GM)	94
Operations Manager	2
Sales Manager	4
HR Manager	0
Did not respond	2

7. Number of technical managers per 100,000 yd^3 of annual production

The weighted average was calculated as one technical manager with responsibility for 425,000 yd^3 compared to one manager for 431,000 yd^3 in 2025. The weighted average for respondents with production less than 500,000 yd^3 was one technical manager with responsibility for 242,000 yd^3 compared to one individual for 196,000 yd^3 in 2025. The distribution of responses was as follows:

No. of technical managers per 100,000 yd^3	Concrete volume per technical manager, yd^3	Percent of Respondents					
		2026	2025	2024	2023	2022	2021
≤ 0.167	≥ 600,000	22	20	20	26	30	24
> 0.167 to 0.250	< 600,000 to 400,000	29	20	25	23	26	29
> 0.250 to 0.500	< 400,000 to 200,000	31	39	39	34	23	24
> 0.500 to 1.000	< 200,000 to 100,000	12	16	10	11	13	16
> 1.000	< 100,000	4	4	6	4	9	7
Did not respond		2	0	0	2	0	0

8. Number of hours of technical continuing education supported or required by company and documented for technical service and QC personnel

Education Hours	Percent of Respondents				
	2026	2025	2024	2023	2022
None	0	0	2	4	13
< 8 hr	16	10	12	9	15
> 8 hr	84	90	86	87	72
Did not respond	0	0	0	0	0

9. Number of field and laboratory technicians per 100,000 yd^3 of annual production

The weighted average was calculated as one field/laboratory technician for 123,000 yd^3 compared to one technician for 119,000 yd^3 reported in 2025. For respondents with production less than 500,000 yd^3, the weighted average was one technician for 83,000 yd^3 compared to one technician for 74,000 yd^3 reported in 2025. The distribution of responses was as follows:

No. of field/lab techs / 100,000 yd^3	Concrete volume per technician, yd^3	Percent of Respondents					
		2026	2025	2024	2023	2022	2021
≤ 0.5	≥ 200,000	10	10	14	19	19	16
> 0.5 to 1.0	< 200,000 to 100,000	51	45	45	36	49	44
> 1.0 to 2.0	< 100,000 to 50,000	27	33	31	34	19	29
> 2	< 50,000	8	12	10	9	13	11
Did not respond		4	0	0	0	2	2

10. Percent of lab and field technicians with ACI certification or equivalent

Percent of technicians with ACI certification	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
< 60	2	0	2	0	0	2
60 to 90	10	4	12	13	9	9
> 90	88	96	86	87	91	89
Did not respond	0	0	0	0	0	0

Product Information

11. Provide information on two most common concrete mixtures with Specified Strength ≤ 5000 psi for the last fiscal year

Specifications should not include any one of the following requirements - Max w/cm or minimum cementitious factor or fixed over-design value such as 1200 psi or early-age strengths

	Weighted Average					
	2026	2025	2024	2023	2022	2021
Standard deviation (S), psi	512	471	522	507	487	467
Avg. Specified strength, psi	4121	3897	3902	3838	3879	3698
Strength increment, %	37%	36%	36%	34%	34%	34%
Mixtures that are air entrained, %	41%	49%	39%	33%	38%	38%

ACI PRC-214 includes a rating indicating production standard deviation of 500-600 psi and 400-500 psi would qualify as a good and very good standard of concrete control for general construction testing, respectively. Standard deviation of strength test results of air-entrained concrete is typically higher than of non-air-entrained concrete.

Strength increment, also referred to as overdesign, represents the difference between the average strength and the specified strength. The weighted average strength increment is 37% representing approximately 1525 psi greater than the weighted average specified strength. Based on the weighted average standard deviation, the overdesign required in accordance with ACI 301 is 690 psi.

To avoid specification requirements that result in a higher average strength, respondents were requested not to include mixtures that were controlled by specified maximum w/cm, minimum cementitious content, those that require a fixed strength increment greater than specified strength, or an early-age strength requirement. While the strength resulting from additional cementitious material will vary with mixture composition, w/cm, SCM use, and materials, an illustrative estimate assuming a conservative cement efficiency factor (cementitious material content ÷ average strength) of 8 psi/lb the actual strength increment in excess of that required by ACI 301 (1525 – 690 = 835 psi) represents excess cementitious material content of approximately 105 lb/yd^3.

12. Performance-Based Tests for Concrete

Percentage of concrete volume that company submits performance data on mixtures other than compressive strength. Performance tests included alkali-silica reactions, drying shrinkage, modulus of elasticity, indicator of permeability, freeze-thaw resistance, etc.

The breakdown was as follows:

Percentage of Production	Percent of Respondents
	2026
<5%	22
5-30%	51
>30%	27
Did not respond	0

13. Percentage of Cost of Materials to Sales Price

Estimate of approximate percentage of the cost of materials to the sales price of concrete. Include cost of all materials used in mixtures. This statistic is also generated in the NRMCA Performance Benchmarking Survey – this estimate is 56% for 2025.

The percentage varied from 35 to 80%. The breakdown was as follows:

Cost of Materials, % of SP	Percent of Respondents
	2026
<40	8
40-50	22
50-60	35
>60	16
Did not respond	20

14. Percentage of Low-Carbon Concrete

Estimate percentage of production are mixtures in the last year that have EPDs or are developed to supply "lower carbon" concrete. (NRMCA Performance Benchmarking Survey – percentage of mixtures that have EPDs is 25% for 2025).

The percentage varied from 0 to 90%. The breakdown was as follows:

Low Carbon Concrete, % of production	Percent of Respondents
	2026
<10	57
10-20	12
20-50	14
>50	12
Did not respond	6

Quality Control Benchmarks

15. Frequency of aggregate grading tests per plant

The breakdown was as follows:

Frequency of measuring aggregate grading	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
Use agg supplier's data	18	16	22	30	28	29
Weekly	39	41	39	32	26	20
Monthly	29	33	25	28	34	44
Quarterly or Greater	14	10	14	11	13	7
Did not respond	0	0	0	0	0	0

16. Frequency of measuring aggregate moisture content (plants or aggregate types not using moisture probes)

The breakdown was as follows:

Frequency of Aggregate Moisture Measurement	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
At least daily	88	86	80	81	79	84
Weekly	10	12	10	13	19	9
> Weekly	2	2	8	6	2	7
Did not respond	0	0	2	0	0	0

17. Frequency of calibration of moisture probes per plant (plants or aggregate types using moisture probes)

The breakdown was as follows:

Frequency of calibrating moisture probes	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
Weekly	57	55	57	60	62	60
Monthly	25	20	20	21	17	20
Quarterly or greater	4	6	8	6	9	11
Did not respond	14	18	16	13	13	9

18. Frequency per month at which production concrete mixtures are tested by obtaining plant samples – average per plant.

Do not include mixtures used for product development or mix optimization. Do not include tests performed by third-party lab for acceptance tests.

The breakdown was as follows:

Frequency of Plant Testing per month	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
≤ 3	12	10	16	40	26	16
4 to 10	31	20	24	34	30	29
> 10	57	70	61	26	45	56
Did not respond	0	0	0	0	0	0

19. Is yield verified for at least the top-selling mixture at each plant at least 1/week?

The breakdown was as follows:

Measure Yield?	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
Yes	94	90	78	77	81	71
No	6	10	22	23	19	27
Did not respond	0	0	0	0	0	2

20. How does the average measured yield compare with target yield?

The breakdown was as follows:

Measured yield compared to target yield, %	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
Within 1	51	78	78	77	70	71
1 to 2	47	22	18	23	30	27
> 2	0	0	2	0	0	0
Did not respond	2	0	2	0	0	2

21. What percent of loads require adjustment for slump and/or air content at the jobsite - for projects with testing/acceptance criteria?

The breakdown was as follows:

Loads requiring adjustment, %	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
< 30	80	78	84	83	72	62
30 to 60	12	14	10	13	15	22
> 60	0	0	0	0	0	0
Did not respond	8	8	6	4	13	16

22. Concrete rejected at jobsite as a percent of production

Concrete rejected at jobsite due to non compliances with slump, air, temperature, density, delivery time or rev limits - as percent of production. Include all rejected loads for reasons associated with quality, specification or delivery requirements such as slump, air, temp etc. Include loads rejected due to quality issues that were beneficially reused. Do not include concrete returned due to ordering excess quantities.

The weighted average of concrete rejected at the jobsite is calculated as 0.54% of the production compared to 0.68% reported in the 2025 report. Reported percentage varied from 0% to 5.0%. This estimate should not include quantities returned due to excess ordered that is returned to the plant.

The distribution of responses was as follows:

Percent Concrete Rejected	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
> 0 to 0.1	20	31	43	38	47	47
> 0.1 to 0.5	31	31	41	38	34	40
> 0.5 to 1.0	33	20	4	13	9	7
> 1.0	2	6	4	4	4	2
Did not respond	14	12	8	6	6	4

23. Concrete with internal quality issues discovered before the load was delivered as a percent of production

Concrete with internal quality issues that are discovered before a load is delivered to the customer - as percent of production. Internal quality issues could be due to dispatch/batching errors (incorrect order / wrong mix batched, incorrect batch weights, etc.), truck breakdown, driver lost, or traffic delays.

The weighted average of concrete volume lost due to internal quality issues was calculated as 0.45% of production compared to 1.3% in the 2025 report.

Percent Concrete with Internal Quality Issues	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
> 0 to 0.1	14	20	27	36	43	29
> 0.1 to 0.5	37	29	41	26	28	42
> 0.5 to 1.0	29	20	8	9	4	7
> 1.0	4	10	8	13	9	7
Did not respond	16	20	27	36	43	29

24. Cost to a company to resolve customer problems, in $ per yd^3 produced.

Include all backcharges/credit paid to a third party due to a concrete quality issue such as finishability, ability to pump, setting time, strength, cracking, scaling, color, under-yield, putting epoxy on a parking garage slab, remove and replace etc. For example if the company produced a total of 20,000 yd^3 of concrete and the total cost paid out for the above reasons was $20,000 the cost should be calculated and reported as $1/$yd^3$.

The weighted average cost to resolve customer problems was calculated as $0.24/$yd^3$ compared to $0.25/$yd^3$ in 2025. The reported statistic varied from $0.0 to $1.26/$yd^3$. The distribution of responses was as follows:

Cost to Company. $/$yd^3$	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
0 to 0.2	49	49	51	64	62	62
> 0.2 to 0.5	24	16	20	9	23	20
> 0.5 to 1.0	12	18	12	9	4	2
> 1.0	2	0	4	6	4	0
Did not respond	14	12	14	13	6	9

25. Practices used to ensure that acceptance testing is reliable

Reports of acceptance tests are generally collected and tracked to tested loads. Companies were provided choices as listed below on what they do to ensure the reliability of acceptance test data.

The breakdown was as follows:

Procedures Used	Percent of Respondents
	2026
Accept the results as provided	0
Observe and document improper practice	13
Provide resources to testing lab	2
Perform companion testing	73
Did not respond	0

Production Benchmarks

26. Percent of production facilities that are inspected or certified – NRMCA, state highway department, or other

The breakdown was as follows:

Percent of Plants	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
< 60	4	0	2	2	4	0
60 to 90	6	4	6	9	6	4
> 90	90	96	92	89	89	96
Did not respond	0	0	0	0	0	0

27. Scale Accuracy Verification

This evaluates compliance of the scale verification process in accordance with ASTM C94. The requirement is that standard test weights used are at least 10% of scale capacity; verification is performed through the range of use using standard test weights, substitute loading, and strain loading. Information and data sheets of the scale verification process was requested for one aggregate scale. The percentage in the "No" category included companies that did not provide the necessary documentation, verification through range of use was not performed, or adequate amount of standard test weights was not used.

The breakdown was as follows:

Comply with ASTM C94 for verification of scale accuracy	Percent of Respondents
	2026
No	43
Yes	57
Did not respond	0

28. Frequency at which cementitious materials are out of tolerance

This question requests the *frequency* at which batched cementitious materials are outside the ASTM C94 tolerance for loads greater 4 yd^3 (% of total). (ASTM C94 establishes tolerance of ±1% on a cumulative basis for batching cementitious materials). This benchmark refers to the frequency and not the actual deviation from target – the actual deviation from target is addressed in the next part..

The breakdown was as follows:

Batches out of tolerance, %	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
Not reviewed	0	0	2	0	0	0
≤ 1	71	53	51	51	66	64
1 to 3%	12	35	35	40	32	29
≥ 3	16	10	8	9	2	7
Did not respond	2	2	4	0	0	0

29. Cement batching accuracy.

Average quantity of cement batched in excess of target. Report as percent of target cement batch weight.

The breakdown was as follows:

Cement Batching Accuracy, % of target weight	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
< 0.0	4	4	10	13	13	16
0.0	14	2	2	4	4	0
> 0.0 to 0.5	20	24	43	47	43	40
> 0.5 to 1.0	51	39	20	17	23	22
> 1.0	4	14	8	11	4	7
Did not respond	8	16	18	9	13	16

30. Average time per truck between loading and leaving the plant.

Time elapsed between batching and leaving plant - for mixing, washdown, slump rack adjustment, etc.

The breakdown was as follows:

Average time per truck, minutes	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
< 7	14	12	16	15	19	22
7 to 12	82	71	71	68	66	64
> 12	0	8	6	9	6	7
Did not respond	4	8	8	9	9	7

31. Percentage of Returned Concrete

Estimate of the average percentage of returned concrete compared to production for all plants in company/division. Attempt reporting as a weighted average based on production at each plant.

The percentage varied from 0 to 6%. The breakdown was as follows:

Percentage of Production	Percent of Respondents
	2026
<0.5%	61
0.5 - 1.0	12
1.0 - 2.0	10
>2.0	4
Did not respond	14

Laboratory Resources

32. Number of company laboratory facilities possessing at least one strength testing machine

The weighted average was calculated as 1 laboratory with at least one strength testing machine per 342,000 yd^3 of production compared to 1 lab per 380,000 yd^3 reported in 2025. The weighted average for respondents with production less than 500,000 yd^3 was one lab for 132,000 yd^3, compared to one lab for 132,000 yd^3 in 2025.

No. of labs per 100,000 yd^3	Concrete volume per one lab, yd^3	Percent of Respondents					
		2026	2025	2024	2023	2022	2021
0.0	NA	0	0	0	0	0	0
> 0.0 to 0.2	≥ 500,000	25	33	33	38	38	33
> 0.2 to 0.4	< 500,000 to 250,000	29	29	39	26	26	24
> 0.4 to 0.6	< 250,000 to 167,000	12	16	8	15	11	16
> 0.6	< 167,000	31	22	20	19	26	24
Did not respond		2	0	0	0	2	0

33. Is the company's central laboratory(ies) inspected by a third party (such as CCRL) or does it participate in a proficiency sample testing program with other labs involved?

The breakdown was as follows:

Percent of Inspected Labs	Percent of Respondents					
	2026	2025	2024	2023	2022	2021
Yes	61	71	69	72	68	73
No	39	29	31	28	32	27
Did not respond	0	0	0	0	0	0

Other Aspects of the Quality Award Application

The Quality Award application is more comprehensive than the items summarized in this report. Some of the sections require applicants to include documentation to support their responses. The applications are scored based on the response and the associated validation. Applicants achieving a score of 75 or greater achieve the NRMCA Excellence in Quality Award. Some of the other aspects covered:

- The outline and process of developing and maintaining the company's Quality Manual or Quality Management System
- Listing of at least 2 quantifiable quality objectives and documentation of such measurement to verify the achievement of stated goals
- Process to address customer complaints and customer education on use of concrete
- Desired qualifications of personnel and training provided; company support of personnel to participate on local and national organizations relative to standards and product promotion
- Process used for checking the accuracy of scales, monitoring batching accuracy, control of water addition to loads, and condition of mixers
- Use of non-potable water and qualification process
- Maintenance of laboratory resources
- Process for review of specifications; performance testing on concrete; tracking of acceptance testing data; and participation on pre-construction meetings

Conclusion

This report on quality benchmarks is conducted by NRMCA's Engineering Division under the direction of the Research Engineering and Standards (RES) Committee. The goal is to establish industry benchmarks that support quality initiatives in ready mixed concrete companies and for companies to evaluate if their resources are in line with typical industry practice. These benchmarks allow for continual improvement in the industry.