

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). <p style="text-align: center;">▶ Complete all entries in accordance with the instructions to the Form 5500.</p>	OMB Nos. 1210-0110 1210-0089 <div style="text-align: center; font-size: 1.5em; font-weight: bold;">2019</div> This Form is Open to Public Inspection
---	---	--

Part I	Annual Report Identification Information
For calendar plan year 2019 or fiscal plan year beginning <u>01/01/2019</u> and ending <u>12/31/2019</u>	
A This return/report is for:	☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☒ a single-employer plan ☐ a DFE (specify) _____
B This return/report is:	☐ the first return/report ☐ the final return/report ☐ an amended return/report ☐ a short plan year return/report (less than 12 months)
C If the plan is a collectively-bargained plan, check here.	☒
D Check box if filing under:	☒ Form 5558 ☐ automatic extension ☐ the DFVC program ☐ special extension (enter description)

Part II	Basic Plan Information —enter all requested information				
1a Name of plan <u>ALERIS CASH BALANCE PLAN (ALSCO)</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1b Three-digit plan number (PN) ▶</td> <td style="width: 20%; text-align: center;"><u>004</u></td> </tr> <tr> <td colspan="2">1c Effective date of plan <u>05/23/2003</u></td> </tr> </table>	1b Three-digit plan number (PN) ▶	<u>004</u>	1c Effective date of plan <u>05/23/2003</u>	
1b Three-digit plan number (PN) ▶	<u>004</u>				
1c Effective date of plan <u>05/23/2003</u>					
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) <u>ALERIS ROLLED PRODUCTS, INC.</u> <u>25825 SCIENCE PARK DR STE 400</u> <u>BEACHWOOD, OH 44122-7392</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>2b Employer Identification Number (EIN) <u>27-1539745</u></td> </tr> <tr> <td>2c Plan Sponsor's telephone number <u>216-910-3400</u></td> </tr> <tr> <td>2d Business code (see instructions) <u>238300</u></td> </tr> </table>	2b Employer Identification Number (EIN) <u>27-1539745</u>	2c Plan Sponsor's telephone number <u>216-910-3400</u>	2d Business code (see instructions) <u>238300</u>	
2b Employer Identification Number (EIN) <u>27-1539745</u>					
2c Plan Sponsor's telephone number <u>216-910-3400</u>					
2d Business code (see instructions) <u>238300</u>					

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	10/13/2020	JOHN TILLMAN
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE	Filed with authorized/valid electronic signature.		
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE	Filed with authorized/valid electronic signature.		
	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2019)
v. 190130

3a Plan administrator's name and address ☒ Same as Plan Sponsor	3b Administrator's EIN 3c Administrator's telephone number <div style="background-color: #cccccc; height: 40px; width: 100%;"></div>
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name c Plan Name	4b EIN 4d PN
5 Total number of participants at the beginning of the plan year	5 99
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d).	
a(1) Total number of active participants at the beginning of the plan year	6a(1) 36
a(2) Total number of active participants at the end of the plan year	6a(2) 35
b Retired or separated participants receiving benefits.....	6b 6
c Other retired or separated participants entitled to future benefits	6c 53
d Subtotal. Add lines 6a(2) , 6b , and 6c	6d 94
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	6e 1
f Total. Add lines 6d and 6e	6f 95
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	6g
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	6h 0
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item).....	7

8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions:

1C 1I 3D 3H

b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:

9a Plan funding arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor
---	---

10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

- (1)** ☒ **R** (Retirement Plan Information)
- (2)** ☐ **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- (3)** ☒ **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- (1)** ☐ **H** (Financial Information)
- (2)** ☒ **I** (Financial Information – Small Plan)
- (3)** ☐ 0 **A** (Insurance Information)
- (4)** ☐ **C** (Service Provider Information)
- (5)** ☐ **D** (DFE/Participating Plan Information)
- (6)** ☐ **G** (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2019 Form M-1 annual report. If the plan was not required to file the 2019 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

SCHEDULE SB (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Single-Employer Defined Benefit Plan Actuarial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code). ▶ File as an attachment to Form 5500 or 5500-SF.	OMB No. 1210-0110 2019 This Form is Open to Public Inspection
--	--	---

For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019

▶ **Round off amounts to nearest dollar.**

▶ **Caution:** A penalty of \$1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan <u>ALERIS CASH BALANCE PLAN (ALSCO)</u>	B Three-digit plan number (PN) ▶ <u>004</u>
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF <u>ALERIS ROLLED PRODUCTS, INC.</u>	D Employer Identification Number (EIN) <u>27-1539745</u>
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B	F Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500

Part I	Basic Information
1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2019</u>	
2 Assets:	
a Market value	2a <u>384322</u>
b Actuarial value	2b <u>413552</u>
3 Funding target/participant count breakdown	
a For retired participants and beneficiaries receiving payment.....	(1) Number of participants <u>7</u> (2) Vested Funding Target <u>40668</u> (3) Total Funding Target <u>40668</u>
b For terminated vested participants.....	<u>56</u> <u>227746</u> <u>227746</u>
c For active participants	<u>36</u> <u>175042</u> <u>175042</u>
d Total.....	<u>99</u> <u>443456</u> <u>443456</u>
4 If the plan is in at-risk status, check the box and complete lines (a) and (b)..... ☐	
a Funding target disregarding prescribed at-risk assumptions	4a
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor.....	4b
5 Effective interest rate	5 <u>5.35</u> %
6 Target normal cost.....	6 <u>100000</u>

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE		<u>09/25/2020</u>
	Signature of actuary	Date
<u>NICHOLAS FRIES</u>	Type or print name of actuary	<u>20-07926</u>
		Most recent enrollment number
<u>MERCER</u>	Firm name	<u>216-830-8031</u>
<u>200 PUBLIC SQUARE, SUITE 3760</u> <u>CLEVELAND, OH 44114</u>	Address of the firm	Telephone number (including area code)

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions ☐

For Paperwork Reduction Act Notice, see the Instructions for Form 5500 or 5500-SF.

Schedule SB (Form 5500) 2019
v. 190130

Part II Beginning of Year Carryover and Prefunding Balances

	(a) Carryover balance	(b) Prefunding balance
7 Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	0
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9 Amount remaining (line 7 minus line 8)	0	0
10 Interest on line 9 using prior year's actual return of <u>-9.19</u> %	0	0
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year)		940
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>5.45</u> %		51
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
c Total available at beginning of current plan year to add to prefunding balance		991
d Portion of (c) to be added to prefunding balance		0
12 Other reductions in balances due to elections or deemed elections	0	0
13 Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	0

Part III Funding Percentages

14 Funding target attainment percentage	14	93.25 %
15 Adjusted funding target attainment percentage	15	93.25 %
16 Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	103.68 %
17 If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage	17	%

Part IV Contributions and Liquidity Shortfalls**18** Contributions made to the plan for the plan year by employer(s) and employees:

(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
09/14/2020	115000	0			
Totals ▶			18(b)	115000	18(c) 0

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:

a Contributions allocated toward unpaid minimum required contributions from prior years	19a	0
b Contributions made to avoid restrictions adjusted to valuation date	19b	0
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	105237

20 Quarterly contributions and liquidity shortfalls:

- a** Did the plan have a "funding shortfall" for the prior year? ☐ Yes ☒ No
- b** If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☐ Yes ☐ No
- c** If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year			
(1) 1st	(2) 2nd	(3) 3rd	(4) 4th

Part V Assumptions Used to Determine Funding Target and Target Normal Cost**21** Discount rate:**a** Segment rates:1st segment:
3.74 %2nd segment:
5.35 %3rd segment:
6.11 %☐ N/A, full yield curve used**b** Applicable month (enter code)**21b**

0

22 Weighted average retirement age**22**

62

23 Mortality table(s) (see instructions)☐

Prescribed - combined

☒

Prescribed - separate

☐

Substitute

Part VI Miscellaneous Items**24** Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No**25** Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment. ☐ Yes ☒ No**26** Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment. ☒ Yes ☐ No**27** If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment.**27****Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years****28** Unpaid minimum required contributions for all prior years **28** 0**29** Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a) **29** 0**30** Remaining amount of unpaid minimum required contributions (line 28 minus line 29) **30** 0**Part VIII Minimum Required Contribution For Current Year****31** Target normal cost and excess assets (see instructions):**a** Target normal cost (line 6) **31a** 100000**b** Excess assets, if applicable, but not greater than line 31a **31b** 0**32** Amortization installments:**a** Net shortfall amortization installment Outstanding Balance 29904 Installment 4859**b** Waiver amortization installment 0 0**33** If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount **33****34** Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33) **34** 104859

	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	0	0

36 Additional cash requirement (line 34 minus line 35) **36** 104859**37** Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c) **37** 105237**38** Present value of excess contributions for current year (see instructions)**a** Total (excess, if any, of line 37 over line 36) **38a** 378**b** Portion included in line 38a attributable to use of prefunding and funding standard carryover balances **38b** 0**39** Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37) **39** 0**40** Unpaid minimum required contributions for all years **40** 0**Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)****41** If an election was made to use PRA 2010 funding relief for this plan:**a** Schedule elected ☐ 2 plus 7 years ☐ 15 years**b** Eligible plan year(s) for which the election in line 41a was made ☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011

SCHEDULE I (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Financial Information—Small Plan This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110
		2019
		This Form is Open to Public Inspection

For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019	
A Name of plan ALERIS CASH BALANCE PLAN (ALSCO)	B Three-digit plan number (PN) ► 004
C Plan sponsor's name as shown on line 2a of Form 5500 ALERIS ROLLED PRODUCTS, INC.	
D Employer Identification Number (EIN) 27-1539745	

Complete Schedule I if the plan covered fewer than 100 participants as of the beginning of the plan year. You may also complete Schedule I if you are filing as a small plan under the 80-120 participant rule (see instructions). Complete Schedule H if reporting as a large plan or DFE.

Part I	Small Plan Financial Information
---------------	---

Report below the current value of assets and liabilities, income, expenses, transfers and changes in net assets during the plan year. Combine the value of plan assets held in more than one trust. Do not enter the value of the portion of an insurance contract that guarantees during this plan year to pay a specific dollar benefit at a future date. Include all income and expenses of the plan including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. **Round off amounts to the nearest dollar.**

1 Plan Assets and Liabilities:		(a) Beginning of Year	(b) End of Year
a Total plan assets	1a	386724	426712
b Total plan liabilities	1b	14705	0
c Net plan assets (subtract line 1b from line 1a)	1c	372019	426712
2 Income, Expenses, and Transfers for this Plan Year:		(a) Amount	(b) Total
a Contributions received or receivable:			
(1) Employers.....	2a(1)	115000	
(2) Participants.....	2a(2)		
(3) Others (including rollovers)	2a(3)		
b Noncash contributions	2b		
c Other income.....	2c	69062	
d Total income (add lines 2a(1), 2a(2), 2a(3), 2b, and 2c)	2d		184062
e Benefits paid (including direct rollovers)	2e	38456	
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions).....	2g		
h Administrative service providers (salaries, fees, and commissions)	2h	90913	
i Other expenses	2i		
j Total expenses (add lines 2e, 2f, 2g, 2h, and 2i).....	2j		129369
k Net income (loss) (subtract line 2j from line 2d)	2k		54693
l Transfers to (from) the plan (see instructions)	2l		

3 Specific Assets: If the plan held assets at any time during the plan year in any of the following categories, check "Yes" and enter the current value of any assets remaining in the plan as of the end of the plan year. Allocate the value of the plan's interest in a commingled trust containing the assets of more than one plan on a line-by-line basis unless the trust meets one of the specific exceptions described in the instructions.		Yes	No	Amount
a Partnership/joint venture interests	3a		X	
b Employer real property	3b		X	
c Real estate (other than employer real property).....	3c		X	
d Employer securities	3d		X	
e Participant loans	3e		X	
f Loans (other than to participants)	3f		X	
g Tangible personal property.....	3g		X	

Part II Compliance Questions

4 During the plan year:		Yes	No	Amount
a	Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)		X	
4a			X	
b	Were any loans by the plan or fixed income obligations due the plan in default as of the close of plan year or classified during the year as uncollectible? Disregard participant loans secured by the participant's account balance.		X	
4b			X	
c	Were any leases to which the plan was a party in default or classified during the year as uncollectible?		X	
4c			X	
d	Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a.)		X	
4d			X	
e	Was the plan covered by a fidelity bond?	X		10000000
4e		X		
f	Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?		X	
4f			X	
g	Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?		X	
4g			X	
h	Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?		X	
4h			X	
i	Did the plan at any time hold 20% or more of its assets in any single security, debt, mortgage, parcel of real estate, or partnership/joint venture interest?		X	
4i			X	
j	Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?		X	
4j			X	
k	Are you claiming a waiver of the annual examination and report of an independent qualified public accountant (IQPA) under 29 CFR 2520.104-46? If "No," attach an IQPA's report or 2520.104-50 statement. (See instructions on waiver eligibility and conditions.)	X		
4k		X		
l	Has the plan failed to provide any benefit when due under the plan?		X	
4l			X	
m	If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)			
4m				
n	If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3			
4n				

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year?..... ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

5c If the plan is a defined benefit plan, is it covered under the PBGC insurance program (See ERISA section 4021.)? ☒ Yes ☐ No ☐ Not determined.
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4236031. (See instructions.)

<div>SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation</div>	<div>Retirement Plan Information</div> <div>This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code).</div> <div>▶ File as an attachment to Form 5500.</div>	<div>OMB No. 1210-0110</div> <div>2019</div> <div>This Form is Open to Public Inspection.</div>
For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019		
A Name of plan ALERIS CASH BALANCE PLAN (ALSCO)		B Three-digit plan number (PN) ▶ 004
C Plan sponsor's name as shown on line 2a of Form 5500 ALERIS ROLLED PRODUCTS, INC.		D Employer Identification Number (EIN) 27-1539745
Part I	Distributions	
All references to distributions relate only to payments of benefits during the plan year.		
1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions		1 0
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): 41-2657133		
Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year		3 4
Part II	Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)	
4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ☐ Yes ☐ No ☒ N/A If the plan is a defined benefit plan, go to line 8.		
5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month Day Year If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.		
6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived)		6a
b Enter the amount contributed by the employer to the plan for this plan year		6b
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount)		6c
If you completed line 6c, skip lines 8 and 9.		
7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ☐ Yes ☐ No ☐ N/A		
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ☐ Yes ☐ No ☒ N/A		
Part III	Amendments	
9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box. ☐ Increase ☐ Decrease ☐ Both ☒ No		
Part IV	ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.	
10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan? ☐ Yes ☐ No		
11 a Does the ESOP hold any preferred stock? ☐ Yes ☐ No		
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.) ☐ Yes ☐ No		
12 Does the ESOP hold any stock that is not readily tradable on an established securities market? ☐ Yes ☐ No		
For Paperwork Reduction Act Notice, see the Instructions for Form 5500.		
Schedule R (Form 5500) 2019 v. 190130		

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

- 14** Enter the number of participants on whose behalf no contributions were made by an employer as an employer of the participant for:

a The current year

b The plan year immediately preceding the current plan year

c The second preceding plan year

14a**14b****14c**

- 15** Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year

b The corresponding number for the second preceding plan year

15a**15b**

- 16** Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year

b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers

16a**16b**

- 17** If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

- 18** If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐

- 19** If the total number of participants is 1,000 or more, complete lines (a) through (c)

- a** Enter the percentage of plan assets held as:

Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____%

- b** Provide the average duration of the combined investment-grade and high-yield debt:

☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

- c** What duration measure was used to calculate line 19(b)?

☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify): _____

- 20 PBGC missed contribution reporting requirements.** If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20.

- a** Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☒ No

- b** If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box:

☐ Yes.

☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date.

☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date.

☐ No. Other. Provide explanation _____

Schedule SB, line 26 — Schedule of Active Participant Data

ATTAINED AGE	YEARS OF CREDITED SERVICE										
	UNDER 1	1–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & UP	TOTAL
Under 25											
25–29											
30–34		1	1								2
35–39	1		1								2
40–44	2	1	3								6
45–49	5		2								7
50–54	1	5	5								11
55–59		3									3
60–64		1	1								2
65–69		3									3
70 & up											
Total	9	14	13								36

In each cell, the number is the count of active participants for each age/service combination. Credited Service was frozen effective January 1, 2008 for all participants with the exception of Ashville union participants who were frozen effective February 1, 2008.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

ACTUARIAL ASSUMPTIONS

DISCOUNT RATE SPONSOR ELECTIONS

Segment rates or full yield curve	Segment		
Look-back months	0		
	<u>Stabilized</u>	<u>Nonstabilized</u>	
First 5 years	3.74%	2.55%	
Next 15 years	5.35%	3.93%	
Over 20 years	6.11%	4.49%	
Mortality sponsor elections			
<ul style="list-style-type: none"> • Healthy participants • Pre-1995 disabilities • Post-1994 disabilities 	Section 430(h)(3) prescribed PPA 2019 separate static annuitant and non-annuitant mortality tables. These tables are developed by the IRS, based on the RP-2014 mortality tables backed off to 2006 with mortality improvement based on projections scale MP-2017.		
Cash balance plans			
<ul style="list-style-type: none"> • Interest accumulation rate 	1.84%		
<ul style="list-style-type: none"> • Whipsaw calculations 	No		
<ul style="list-style-type: none"> • Annuity conversion 			
<ul style="list-style-type: none"> – Mortality table 	Not applicable		
<ul style="list-style-type: none"> – Interest rate basis 	Not applicable		
<ul style="list-style-type: none"> • Other economic assumptions 			
<ul style="list-style-type: none"> • Expected investment return 	7.75% per year for 2017 7.10% per year for 2018 6.95% per year for 2019 (limited to 3rd segment rate)		
<ul style="list-style-type: none"> • Expenses 	\$100,000 added to current year normal cost.		

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

RATIONALE FOR ECONOMIC ASSUMPTIONS

- **Discount Rate** – As prescribed by IRS.
- **Interest crediting rate** - The cash balance plan interest crediting rate assumption is based on the historical spread between high quality corporate bonds and the plan defined interest crediting rate. The interest crediting rate assumption is determined by applying the historical spread to the discount rate used for disclosure as this rate is based on high quality corporate bond yields. The resulting Aleris Cash Balance Plan (ALSCO) assumed interest crediting rate is 221 basis points lower than the discount rate.
- **Expected investment return** – The expected rate of return on plan assets is based on a blend of the hypothetical past performance of the plan's target asset mix, adjusted for current market conditions, and the median simulated investment return using capital market assumptions published in Mercer Investment Consulting's Capital Markets Outlook for the plan's target asset mix. The expected return on assets assumption is net of an adjustment for investment expenses assumed to be paid from plan assets.
- **Expenses** – Expenses are based on year-by-year experience for actual administrative expenses paid from plan assets and adjusted for the difference in expected PBGC premiums.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

DEMOGRAPHIC ASSUMPTIONS		
• Withdrawal	See table of sample rates.	
• Disability incidence	See table of sample rates that are based on the 1985 Pension Disability Class 3 table.	
• Retirement age	Attained age	Percentage
	55-59	5%
	60-61	10%
	62	25%
	63-64	10%
	65 and above	100%
• Benefit commencement age for		
– Future vested deferred	Later of 65 or 5 years of service.	
– Current vested deferred	65	
• Spouse assumptions	<u>Male participants</u>	<u>Female participants</u>
– Percentage married	100%	100%
– Spouse age difference	3 years younger	3 years older
Form of payment	<u>Lump sum</u>	
• Active retirements	100%	
• Future vested deferred	100%	
• Future disabilities	100%	
• Future deaths	100%	
• Current vested deferred	100%	
Unpredictable contingent event assumptions	Not applicable	

*Schedule SB, Part V — Statement of Actuarial Assumptions/Methods***Table of Sample Rates**

ATTAINED AGE	PERCENTAGE		
	DISABILITY		WITHDRAWAL
	MALE	FEMALE	
20	0.15%	0.09%	6.39%
25	0.22%	0.15%	4.76%
30	0.31%	0.25%	3.31%
35	0.43%	0.39%	2.80%
40	0.60%	0.55%	2.57%
45	0.83%	0.78%	2.33%
50	1.22%	1.20%	2.10%
55	2.11%	1.96%	1.87%
60	3.24%	2.33%	
65	4.37%	2.72%	

RATIONALE FOR DEMOGRAPHIC ASSUMPTIONS

- **Mortality** – Mortality table prescribed by the IRS.
- **Withdrawal** – The termination table is based on the Society of Actuaries 2003 ultimate turnover table with adjustments, as the plan is too small to use its own experience as a guideline. Annual review of the experience has shown that this table produced a reasonable approximation of the rates of termination experienced by the plan.
- **Retirement age** – Retirement rates have been developed based on the actuary's experience with similar plans and the age social insurance programs are first available. Annual review of the plan experience has shown that these rates provide similar results to the actual rates of retirement experienced under the plan.
- **Form of payment** – 100% of participants are assumed to elect a lump sum of their cash balance account, based on experience that shows very few participants elect the actuarially equivalent annuity options.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

ACTUARIAL METHODS

Asset Methods

The asset valuation method is an average of the adjusted market value for each year during the last two years preceding the valuation date. The adjusted market value is the market value at each determination date adjusted to the valuation date based on actual cash flows and expected interest at the lesser of the expected rate of return and the third segment rate. This amount is adjusted to be no greater than 110 percent and no less than 90 percent of the fair market value, as defined in IRC Section 430.

A characteristic of this asset method is that, over time, it is slightly more likely to produce an actuarial value of assets that is less than the market value of assets than an actuarial value that is greater than the market value.

Participant Methods

Participants or former participants are included or excluded from the valuation as described below:

- **Participants included:** The plan sponsor provides us with data on all employees participating in the plan as of the valuation date.
- **Participants excluded:** No actuarial liability is included for nonvested participants who terminated prior to the valuation date. For this purpose, participants with a break in service on the valuation date are treated as terminated participants.
- **Insurance contracts:** The plan does not have any insurance contracts.

*Schedule SB, Part V — Statement of Actuarial Assumptions/Methods***Minimum Funding Methods**

The funding target for minimum funding calculations is computed using the traditional unit credit method of funding. The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, the total pension to which each participant is expected to become entitled at retirement is broken down into units, each associated with a year of past or future credited service.

A detailed description of the calculation follows:

- The plan's valuation date is the beginning of the plan year.
- An individual's **funding target** is the present value of future benefits based on credited service and average pay as of the beginning of the plan year, and an individual's **target normal cost** is the present value of the benefit expected to accrue in the plan year. If multiple decrements are used, the funding target and the target normal cost for an individual are the sum of the component funding targets and target normal costs associated with the various anticipated separation dates.
- The plan's **target normal cost** is the sum of the individual target normal costs, and the plan's **funding target** is the sum of the individual funding targets for all participants under the plan.

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). <p style="text-align: center;">▶ Complete all entries in accordance with the instructions to the Form 5500.</p>	OMB Nos. 1210-0110 1210-0089 2019 This Form is Open to Public Inspection
---	---	---

Part I Annual Report Identification Information	
For calendar plan year 2019 or fiscal plan year beginning <u>01/01/2019</u> and ending <u>12/31/2019</u>	
A This return/report is for:	☐ a multiemployer plan ☒ a single-employer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☐ a DFE (specify) _____
B This return/report is:	☐ the first return/report ☐ the final return/report ☐ an amended return/report ☐ a short plan year return/report (less than 12 months)
C If the plan is a collectively-bargained plan, check here. ☒	
D Check box if filing under:	
☒ Form 5558 ☐ automatic extension ☐ the DFVC program ☐ special extension (enter description)	

Part II Basic Plan Information —enter all requested information	
1a Name of plan ALERIS CASH BALANCE PLAN (ALSCO)	1b Three-digit plan number (PN) ▶ <u>004</u> 1c Effective date of plan <u>05/23/2003</u>
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) ALERIS ROLLED PRODUCTS, INC. 25825 SCIENCE PARK DR STE 400 BEACHWOOD OH 44122-7392	2b Employer Identification Number (EIN) <u>27-1539745</u> 2c Plan Sponsor's telephone number <u>216-910-3400</u> 2d Business code (see instructions) <u>238300</u>

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	 Signature of plan administrator	<u>10/13/2020</u> Date	John Tillman Enter name of individual signing as plan administrator
SIGN HERE	 Signature of employer/plan sponsor	<u>10/13/2020</u> Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2019)
v. 190130

3a Plan administrator's name and address ☒ Same as Plan Sponsor	3b Administrator's EIN 3c Administrator's telephone number <div style="background-color: #cccccc; height: 40px; width: 100%;"></div>
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name c Plan Name	4b EIN 4d PN
5 Total number of participants at the beginning of the plan year	5 99
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d).	
a(1) Total number of active participants at the beginning of the plan year	6a(1) 36
a(2) Total number of active participants at the end of the plan year	6a(2) 35
b Retired or separated participants receiving benefits.....	6b 6
c Other retired or separated participants entitled to future benefits	6c 53
d Subtotal. Add lines 6a(2) , 6b , and 6c	6d 94
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	6e 1
f Total. Add lines 6d and 6e	6f 95
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	6g
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	6h 0
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item).....	7
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 1C 1I 3D 3H	
b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:	

9a Plan funding arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor
---	---

10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

- (1) ☒ **R** (Retirement Plan Information)
- (2) ☐ **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- (3) ☒ **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- (1) ☐ **H** (Financial Information)
- (2) ☒ **I** (Financial Information – Small Plan)
- (3) ☐ **A** (Insurance Information)
- (4) ☐ **C** (Service Provider Information)
- (5) ☐ **D** (DFE/Participating Plan Information)
- (6) ☐ **G** (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2019 Form M-1 annual report. If the plan was not required to file the 2019 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

**SCHEDULE SB
(Form 5500)**Department of the Treasury
Internal Revenue ServiceDepartment of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

**Single-Employer Defined Benefit Plan
Actuarial Information**

This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code).

▶ **File as an attachment to Form 5500 or 5500-SF.**

OMB No. 1210-0110

2019**This Form is Open to Public Inspection**For calendar plan year 2019 or fiscal plan year beginning 01/01/2019 and ending 12/31/2019▶ **Round off amounts to nearest dollar.**▶ **Caution:** A penalty of \$1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan ALERIS CASH BALANCE PLAN (ALSCO)	B Three-digit plan number (PN) ▶ 004
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF ALERIS ROLLED PRODUCTS, INC.	D Employer Identification Number (EIN) 27-1539745
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B	F Prior year plan size: ☐ 100 or fewer ☐ 101-500 ☒ More than 500

Part I Basic Information

1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2019</u>			
2 Assets:			
a Market value.....	2a	384,322	
b Actuarial value.....	2b	413,552	
3 Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment.....	7	40,668	40,668
b For terminated vested participants.....	56	227,746	227,746
c For active participants.....	36	175,042	175,042
d Total.....	99	443,456	443,456
4 If the plan is in at-risk status, check the box and complete lines (a) and (b)..... ☐			
a Funding target disregarding prescribed at-risk assumptions.....	4a		
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor.....	4b		
5 Effective interest rate.....	5	5.35%	
6 Target normal cost.....	6	100,000	

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE	<u>NICHOLAS FRIES</u> <u>NGCF</u>	<u>09/25/2020</u>
Signature of actuary		Date
<u>NICHOLAS FRIES</u>		<u>2007926</u>
Type or print name of actuary		Most recent enrollment number
<u>MERCER</u>		<u>216-830-8031</u>
Firm name		Telephone number (including area code)
<u>200 PUBLIC SQUARE, SUITE 3760</u>		
<u>CLEVELAND</u>	<u>OH</u> <u>44114</u>	
Address of the firm		

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions ☐**For Paperwork Reduction Act Notice, see the Instructions for Form 5500 or 5500-SF.****Schedule SB (Form 5500) 2019
v. 190130**

Part II Beginning of Year Carryover and Prefunding Balances

	(a) Carryover balance	(b) Prefunding balance
7 Balance at beginning of prior year after applicable adjustments (line 13 from prior year).....	0	0
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year).....	0	0
9 Amount remaining (line 7 minus line 8).....	0	0
10 Interest on line 9 using prior year's actual return of <u>-9.19%</u>	0	0
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year).....		940
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>5.45%</u>		51
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return.....		0
c Total available at beginning of current plan year to add to prefunding balance.....		991
d Portion of (c) to be added to prefunding balance.....		0
12 Other reductions in balances due to elections or deemed elections.....	0	0
13 Balance at beginning of current year (line 9 + line 10 + line 11d - line 12).....	0	0

Part III	Funding Percentages
-----------------	----------------------------

14	Funding target attainment percentage	14	93.25%
15	Adjusted funding target attainment percentage	15	93.25%
16	Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	103.68%
17	If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage	17	%

Part IV	Contributions and Liquidity Shortfalls
----------------	---

18 Contributions made to the plan for the plan year by employer(s) and employees:

Part 1. Information about the plan year, by employer(s) and employee(s)					
(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
09/14/2020	115,000	0			
Totals ▶			18(b)	115,000	18(c)
					0

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:

a Contributions allocated toward unpaid minimum required contributions from prior years.....	19a	0
b Contributions made to avoid restrictions adjusted to valuation date	19b	0
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date.....	19c	105,237

20 Quarterly contributions and liquidity shortfalls:

a Did the plan have a "funding shortfall" for the prior year? ☐ Yes ☒ No

b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☐ Yes ☐ No

C If line 20a is "Yes," see instructions and complete the following table as applicable:

Liquidity shortfall as of end of quarter of this plan year			
(1) 1st	(2) 2nd	(3) 3rd	(4) 4th

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:				
a Segment rates:	1st segment: 3.74 %	2nd segment: 5.35 %	3rd segment: 6.11 %	☐ N/A, full yield curve used
b Applicable month (enter code).....				21b 0
22 Weighted average retirement age				22 62
23 Mortality table(s) (see instructions)	☐ Prescribed - combined ☒ Prescribed - separate ☐ Substitute			

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment	☒ Yes ☐ No
25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment	☐ Yes ☒ No
26 Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment	☒ Yes ☐ No
27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment	27

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	28	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	29	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	30	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):			
a Target normal cost (line 6)	31a	100,000	
b Excess assets, if applicable, but not greater than line 31a	31b	0	
32 Amortization installments:	Outstanding Balance	Installment	
a Net shortfall amortization installment	29,904	4,859	
b Waiver amortization installment	0	0	
33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	33		
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)....	34	104,859	
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	0	0
36 Additional cash requirement (line 34 minus line 35)	36	104,859	
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37	105,237	
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)	38a	378	
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	38b	0	
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)	39	0	
40 Unpaid minimum required contributions for all years	40	0	

Part IX Pension Funding Relief Under Pension Relief Act of 2010 (See Instructions)

41 If an election was made to use PRA 2010 funding relief for this plan:	
a Schedule elected	☐ 2 plus 7 years ☐ 15 years
b Eligible plan year(s) for which the election in line 41a was made	☐ 2008 ☐ 2009 ☐ 2010 ☐ 2011

Schedule SB, line 22 — Description of Weighted Average Retirement Age

Each employee is assumed to retire in accordance with the table of retirement rates. The proportion of employees expected to retire at each potential retirement age is shown below. The average retirement age is 62.

(A)	(B)	(C)	(D)	(E)
Retirement age	Retirement Percent	Lx	Number of employees expected to retire (B) x (C)	(A) x (D)
55	5.0%	100,000	5,000	275,000
56	5.0%	95,000	4,750	266,000
57	5.0%	90,250	4,513	257,241
58	5.0%	85,737	4,287	248,646
59	5.0%	81,450	4,073	240,307
60	10.0%	77,377	7,738	464,280
61	10.0%	69,639	6,964	424,804
62	25.0%	62,675	15,669	971,478
63	10.0%	47,006	4,701	296,163
64	10.0%	42,305	4,231	270,784
65	100.0%	38,074	38,074	2,474,810
Total			100,000	6,189,513
Average				61.90

Note: Column (D) is the product of columns (B) and (C). Column (E) is the product of column (A) and (D). The average retirement age is the total from column (E) divided by the total column (D).

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

ACTUARIAL ASSUMPTIONS

DISCOUNT RATE SPONSOR ELECTIONS

Segment rates or full yield curve	Segment		
Look-back months	0		
	<u>Stabilized</u>	<u>Nonstabilized</u>	
First 5 years	3.74%	2.55%	
Next 15 years	5.35%	3.93%	
Over 20 years	6.11%	4.49%	
Mortality sponsor elections			
<ul style="list-style-type: none"> • Healthy participants • Pre-1995 disabilities • Post-1994 disabilities 	Section 430(h)(3) prescribed PPA 2019 separate static annuitant and non-annuitant mortality tables. These tables are developed by the IRS, based on the RP-2014 mortality tables backed off to 2006 with mortality improvement based on projections scale MP-2017.		
Cash balance plans			
<ul style="list-style-type: none"> • Interest accumulation rate 	1.84%		
<ul style="list-style-type: none"> • Whipsaw calculations 	No		
<ul style="list-style-type: none"> • Annuity conversion 			
<ul style="list-style-type: none"> – Mortality table 	Not applicable		
<ul style="list-style-type: none"> – Interest rate basis 	Not applicable		
<ul style="list-style-type: none"> • Other economic assumptions 			
<ul style="list-style-type: none"> • Expected investment return 	7.75% per year for 2017 7.10% per year for 2018 6.95% per year for 2019 (limited to 3rd segment rate)		
<ul style="list-style-type: none"> • Expenses 	\$100,000 added to current year normal cost.		

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

RATIONALE FOR ECONOMIC ASSUMPTIONS

- **Discount Rate** – As prescribed by IRS.
- **Interest crediting rate** - The cash balance plan interest crediting rate assumption is based on the historical spread between high quality corporate bonds and the plan defined interest crediting rate. The interest crediting rate assumption is determined by applying the historical spread to the discount rate used for disclosure as this rate is based on high quality corporate bond yields. The resulting Aleris Cash Balance Plan (ALSCO) assumed interest crediting rate is 221 basis points lower than the discount rate.
- **Expected investment return** – The expected rate of return on plan assets is based on a blend of the hypothetical past performance of the plan's target asset mix, adjusted for current market conditions, and the median simulated investment return using capital market assumptions published in Mercer Investment Consulting's Capital Markets Outlook for the plan's target asset mix. The expected return on assets assumption is net of an adjustment for investment expenses assumed to be paid from plan assets.
- **Expenses** – Expenses are based on year-by-year experience for actual administrative expenses paid from plan assets and adjusted for the difference in expected PBGC premiums.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

DEMOGRAPHIC ASSUMPTIONS		
• Withdrawal	See table of sample rates.	
• Disability incidence	See table of sample rates that are based on the 1985 Pension Disability Class 3 table.	
• Retirement age	Attained age	Percentage
	55-59	5%
	60-61	10%
	62	25%
	63-64	10%
	65 and above	100%
• Benefit commencement age for		
– Future vested deferred	Later of 65 or 5 years of service.	
– Current vested deferred	65	
• Spouse assumptions	<u>Male participants</u>	<u>Female participants</u>
– Percentage married	100%	100%
– Spouse age difference	3 years younger	3 years older
Form of payment	<u>Lump sum</u>	
• Active retirements	100%	
• Future vested deferred	100%	
• Future disabilities	100%	
• Future deaths	100%	
• Current vested deferred	100%	
Unpredictable contingent event assumptions	Not applicable	

*Schedule SB, Part V — Statement of Actuarial Assumptions/Methods***Table of Sample Rates**

ATTAINED AGE	PERCENTAGE		
	DISABILITY		WITHDRAWAL
	MALE	FEMALE	
20	0.15%	0.09%	6.39%
25	0.22%	0.15%	4.76%
30	0.31%	0.25%	3.31%
35	0.43%	0.39%	2.80%
40	0.60%	0.55%	2.57%
45	0.83%	0.78%	2.33%
50	1.22%	1.20%	2.10%
55	2.11%	1.96%	1.87%
60	3.24%	2.33%	
65	4.37%	2.72%	

RATIONALE FOR DEMOGRAPHIC ASSUMPTIONS

- **Mortality** – Mortality table prescribed by the IRS.
- **Withdrawal** – The termination table is based on the Society of Actuaries 2003 ultimate turnover table with adjustments, as the plan is too small to use its own experience as a guideline. Annual review of the experience has shown that this table produced a reasonable approximation of the rates of termination experienced by the plan.
- **Retirement age** – Retirement rates have been developed based on the actuary's experience with similar plans and the age social insurance programs are first available. Annual review of the plan experience has shown that these rates provide similar results to the actual rates of retirement experienced under the plan.
- **Form of payment** – 100% of participants are assumed to elect a lump sum of their cash balance account, based on experience that shows very few participants elect the actuarially equivalent annuity options.

Schedule SB, Part V — Statement of Actuarial Assumptions/Methods

ACTUARIAL METHODS

Asset Methods

The asset valuation method is an average of the adjusted market value for each year during the last two years preceding the valuation date. The adjusted market value is the market value at each determination date adjusted to the valuation date based on actual cash flows and expected interest at the lesser of the expected rate of return and the third segment rate. This amount is adjusted to be no greater than 110 percent and no less than 90 percent of the fair market value, as defined in IRC Section 430.

A characteristic of this asset method is that, over time, it is slightly more likely to produce an actuarial value of assets that is less than the market value of assets than an actuarial value that is greater than the market value.

Participant Methods

Participants or former participants are included or excluded from the valuation as described below:

- **Participants included:** The plan sponsor provides us with data on all employees participating in the plan as of the valuation date.
- **Participants excluded:** No actuarial liability is included for nonvested participants who terminated prior to the valuation date. For this purpose, participants with a break in service on the valuation date are treated as terminated participants.
- **Insurance contracts:** The plan does not have any insurance contracts.

*Schedule SB, Part V — Statement of Actuarial Assumptions/Methods***Minimum Funding Methods**

The funding target for minimum funding calculations is computed using the traditional unit credit method of funding. The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, the total pension to which each participant is expected to become entitled at retirement is broken down into units, each associated with a year of past or future credited service.

A detailed description of the calculation follows:

- The plan's valuation date is the beginning of the plan year.
- An individual's **funding target** is the present value of future benefits based on credited service and average pay as of the beginning of the plan year, and an individual's **target normal cost** is the present value of the benefit expected to accrue in the plan year. If multiple decrements are used, the funding target and the target normal cost for an individual are the sum of the component funding targets and target normal costs associated with the various anticipated separation dates.
- The plan's **target normal cost** is the sum of the individual target normal costs, and the plan's **funding target** is the sum of the individual funding targets for all participants under the plan.

Schedule SB, Part V — Summary of Plan Provisions
SUMMARY OF MAJOR PLAN PROVISIONS

Effective date and plan year	Original plan: May 23, 2003 Restated plan: January 1, 2015 Plan year: Calendar year
Status of the plan	The plan is frozen for both participation and benefit accruals other than interest credits on cash balances.
Significant events that occurred during the year	None
DEFINITIONS	
<ul style="list-style-type: none"> Participation 	<p>Salaried class (paid on a salaried basis).</p> <p>Nonbargaining hourly class employed at Beloit, WI.</p> <p>Bargaining class employed on and after 9-1-01 at the Bellwood Plant 44 location and who is not an active member under the bargaining plan.</p> <p>Bargaining class employed on and after 2-1-01 at the Ashville, OH plant location and who is not an active member under the bargaining plan.</p> <p>Bargaining class employed on and after 8-1-04 at the Richmond, VA plant location, who has completed 90 days of employment and who is not a member under the bargaining plan.</p>
<ul style="list-style-type: none"> Vesting service 	<p>All service is measured in full and fractional years on the basis that 365 days equals one year from the employee's hire date (reduced by any period of Severance).</p> <p>Beginning on or after January 1, 2008, all participants who have an Hour of Service will be fully vested after completing 3 years of vesting service.</p>
<ul style="list-style-type: none"> Credited service 	<p>All service measured in full years and fractional parts of a year on the basis that 365 days equals one year. Service before 05/23/2003 is excluded for employees whose vesting percentage under the prior plans was greater than zero.</p> <p>Credited Service was frozen effective January 1, 2008 for all participants with the exception of Ashville union participants who were frozen effective February 1, 2008.</p>
<ul style="list-style-type: none"> Compensation 	<p>Annual earnings are detailed as all wages including elective contributions and reduced for certain reimbursements and fringe benefits. All compensation is limited to the amount specified in code section 401(a)(17).</p> <p>Compensation was frozen effective January 1, 2008 for all participants with the exception of Ashville union participants who were frozen effective February 1, 2008.</p>

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> High three-year average compensation 	<p>The average Compensation for the three consecutive Limitation Years while the Participant was an Employee.</p> <p>Final earnings are frozen effective January 1, 2008 for all participants with the exception of Ashville union participants who were frozen effective February 1, 2008.</p>
<ul style="list-style-type: none"> Accrued benefit 	<p>The cash balance account will be equal to the sum of the interest and pay credits:</p> <p>Interest credits will be based on the annual yield of 5-year US treasury securities as of the November of the preceding year.</p> <p>On and after 5/23/03, pay credits will be given as follows:</p> <ol style="list-style-type: none"> 1. Salaried or hourly nonbargaining employees will receive an amount equal to 3% of compensation for each year where a year of accrual service is earned. 2. Bargaining employees at the Ashville location will receive \$50 per month (\$600 per year). 3. Bargaining employees at the Richmond, VA location will receive: <ul style="list-style-type: none"> \$60 per month (\$720 per year) on and after 6-1-03 and prior to 8-1-04 \$65 per month (\$780 per year) on and after 8-1-04 and prior to 8-1-05. \$70 per month (\$840 per year) on and after 8-1-05 and prior to 8-1-06 \$75 per month (\$900 per year) on and after 8-1-06 <p>Certain employees who were not vested in their Owens Corning cash balance benefit at 05/23/2003 received credit for prior service.</p>
NORMAL RETIREMENT	
<ul style="list-style-type: none"> Eligibility 	The first day of the month coincident with or next following the later of the attainment of age 65 or 5 years after his Entry Date.
<ul style="list-style-type: none"> Benefit 	Accrued Benefit at Normal Retirement Date
LATE RETIREMENT	
<ul style="list-style-type: none"> Eligibility 	Same as normal retirement benefit
<ul style="list-style-type: none"> Benefit 	Accrued Benefit at Late Retirement Date

Schedule SB, Part V — Summary of Plan Provisions

DEFERRED VESTED/EARLY RETIREMENT	
• Eligibility	100% vested at three years after January 1, 2008 100% vested at five years of vesting service prior to January 1, 2008. Provided, however, for an Employee whose Employment Commencement Date for purposes of Vesting Service occurred prior to January 1, 2003, 100% vested at three years of vesting service.
• Benefit	Equal to Accrued Benefit
DISABILITY RETIREMENT	
• Eligibility	Same as deferred vested benefit.
• Benefit	Equal to Accrued Benefit
PRE-RETIREMENT DEATH	
• Eligibility	Qualified married participant vested in an accrued benefit.
• Benefit	The greater of 1) or 2) 1. Monthly annuity payable for 5 years, and life thereafter, to the spouse or beneficiary, deferred to participant's earliest retirement date if later than the date of death. <u>Amount:</u> If death occurs, the amount paid to the surviving spouse is equal to the amount that would have been paid to the participant had he terminated employment on the date of death, survived to his earliest retirement age, and retired. 2. <u>Lump Sum</u> Amount: Present value of the accrued benefit, but not less than the cash balance account on the date of death.
FORM OF BENEFITS	
• Automatic form for unmarried participants	Life annuity with a five year certain period.
• Automatic form for married participants	Joint and 50% Survivor.
• Optional forms	Monthly annuity payable for life or life with Social Security Adjustment, or 5 or 10 years certain and life Monthly annuity payable as a survivorship life annuity with survivorship percentages of 50, 75, or 100 Lump Sum
• Actuarial equivalence	Mortality and phased-in interest rates set forth in Code Section 417(e)(3) as of the November preceding the beginning of the plan year.

Schedule SB, Part V — Summary of Plan Provisions

MISCELLANEOUS	
• Maximum benefits	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2019, the limit is \$225,000.
• Administration	Administered by the Benefit Committee
• Funding medium	Trust
• Benefits not included in valuation	None

Benefits Included or Excluded

Unless noted below, all benefits provided by the plan, as restated are included in this valuation:

- **Plan amendments excluded:** Amendments adopted after the valuation date or effective after the current plan year are excluded from the valuation.
- **Late retirement increases:**
 - *Active participants:* The plan provides benefit suspension notices to participants who work beyond normal retirement; therefore, late retirement actuarial increases only apply to participants who defer retirement beyond age 70½.
 - *Deferred vested participants:* Current deferred vested participants over normal retirement age are not valued including the late retirement actuarial increase since we are just valuing the account balance as a lump sum.
- **Internal Revenue Code limitations:** The limitations of Internal Revenue Code Section 415(b) and 401(a)(17) have been incorporated into our calculations.
- **IRC Section 416 rules for top-heavy plans:** We did not test whether this plan is top-heavy (when the present value of benefits for key employees equals or exceeds 60% of the present value for all participants). However, we expect that the plan is not top-heavy due to the large number of rank-and-file participants; therefore, the funding target and target normal cost do not reflect any liability for top-heavy benefit accruals.
- **IRC Section 436 benefit restrictions:**
 - *Unpredictable contingent event benefits:* This plan does not have any unpredictable contingent event benefits.
 - *Plan amendments:* See above.
 - *Prohibited payments:* Limitations on prohibited benefits (if any) are reflected for annuity starting dates before the valuation date but are ignored for annuity starting dates on or after the valuation date.
 - *Benefit accruals:* The plan's funding target does not reflect any limitation on benefit accruals. The target normal cost does not reflect any limitation on benefit accruals.

Schedule SB, Part V — Summary of Plan Provisions

PLAN PROVISION CHANGES SINCE PRIOR VALUATION

Maximum benefit amounts under IRS rules were updated from \$220,000 in 2018 to \$225,000 in 2019.

Schedule SB, line 24 — Change in Actuarial Assumptions

ACTUARIAL ASSUMPTION CHANGES SINCE PRIOR VALUATION

- The interest crediting rate changed from 1.23% to 1.84% to reflect the historical spreads between high quality corporate bonds and the plan defined interest crediting rate.
- The expense component of the target normal cost increased from \$77,837 to \$100,000 to reflect our expectations for the current plan year.
- The expected return on asset assumption was updated from 7.10% in 2018 to 6.95% in 2019.

Schedule SB, line 26 — Schedule of Active Participant Data

ATTAINED AGE	YEARS OF CREDITED SERVICE										
	UNDER 1	1–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40 & UP	TOTAL
Under 25											
25–29											
30–34		1	1								2
35–39	1		1								2
40–44	2	1	3								6
45–49	5		2								7
50–54	1	5	5								11
55–59		3									3
60–64		1	1								2
65–69		3									3
70 & up											
Total	9	14	13								36

In each cell, the number is the count of active participants for each age/service combination. Credited Service was frozen effective January 1, 2008 for all participants with the exception of Ashville union participants who were frozen effective February 1, 2008.

Schedule SB, line 32 — Schedule of Amortization Bases

The total shortfall amortization charge is the sum of the individual shortfall amortization installments for each plan year since the IRC Section 430 changes made by the Pension Protection Act of 2006 (PPA) took effect for the plan. Although an individual shortfall amortization installment can be negative, the combined shortfall amortization charge cannot be less than \$0.

SHORTFALL BASES			
YEAR ESTABLISHED	OUTSTANDING BALANCE	YEARS REMAINING	2019 INSTALLMENT
2019	29,904	7	4,859
Total	\$ 29,904		\$ 4,859

Schedule SB, line 22 — Description of Weighted Average Retirement Age

Each employee is assumed to retire in accordance with the table of retirement rates. The proportion of employees expected to retire at each potential retirement age is shown below. The average retirement age is 62.

(A)	(B)	(C)	(D)	(E)
Retirement age	Retirement Percent	Lx	Number of employees expected to retire (B) x (C)	(A) x (D)
55	5.0%	100,000	5,000	275,000
56	5.0%	95,000	4,750	266,000
57	5.0%	90,250	4,513	257,241
58	5.0%	85,737	4,287	248,646
59	5.0%	81,450	4,073	240,307
60	10.0%	77,377	7,738	464,280
61	10.0%	69,639	6,964	424,804
62	25.0%	62,675	15,669	971,478
63	10.0%	47,006	4,701	296,163
64	10.0%	42,305	4,231	270,784
65	100.0%	38,074	38,074	2,474,810
Total			100,000	6,189,513
Average				61.90

Note: Column (D) is the product of columns (B) and (C). Column (E) is the product of column (A) and (D). The average retirement age is the total from column (E) divided by the total column (D).

Schedule SB, Part V — Summary of Plan Provisions
SUMMARY OF MAJOR PLAN PROVISIONS

Effective date and plan year	Original plan: May 23, 2003 Restated plan: January 1, 2015 Plan year: Calendar year
Status of the plan	The plan is frozen for both participation and benefit accruals other than interest credits on cash balances.
Significant events that occurred during the year	None
DEFINITIONS	
<ul style="list-style-type: none"> Participation 	<p>Salaried class (paid on a salaried basis).</p> <p>Nonbargaining hourly class employed at Beloit, WI.</p> <p>Bargaining class employed on and after 9-1-01 at the Bellwood Plant 44 location and who is not an active member under the bargaining plan.</p> <p>Bargaining class employed on and after 2-1-01 at the Ashville, OH plant location and who is not an active member under the bargaining plan.</p> <p>Bargaining class employed on and after 8-1-04 at the Richmond, VA plant location, who has completed 90 days of employment and who is not a member under the bargaining plan.</p>
<ul style="list-style-type: none"> Vesting service 	<p>All service is measured in full and fractional years on the basis that 365 days equals one year from the employee's hire date (reduced by any period of Severance).</p> <p>Beginning on or after January 1, 2008, all participants who have an Hour of Service will be fully vested after completing 3 years of vesting service.</p>
<ul style="list-style-type: none"> Credited service 	<p>All service measured in full years and fractional parts of a year on the basis that 365 days equals one year. Service before 05/23/2003 is excluded for employees whose vesting percentage under the prior plans was greater than zero.</p> <p>Credited Service was frozen effective January 1, 2008 for all participants with the exception of Ashville union participants who were frozen effective February 1, 2008.</p>
<ul style="list-style-type: none"> Compensation 	<p>Annual earnings are detailed as all wages including elective contributions and reduced for certain reimbursements and fringe benefits. All compensation is limited to the amount specified in code section 401(a)(17).</p> <p>Compensation was frozen effective January 1, 2008 for all participants with the exception of Ashville union participants who were frozen effective February 1, 2008.</p>

Schedule SB, Part V — Summary of Plan Provisions

<ul style="list-style-type: none"> High three-year average compensation 	<p>The average Compensation for the three consecutive Limitation Years while the Participant was an Employee.</p> <p>Final earnings are frozen effective January 1, 2008 for all participants with the exception of Ashville union participants who were frozen effective February 1, 2008.</p>
<ul style="list-style-type: none"> Accrued benefit 	<p>The cash balance account will be equal to the sum of the interest and pay credits:</p> <p>Interest credits will be based on the annual yield of 5-year US treasury securities as of the November of the preceding year.</p> <p>On and after 5/23/03, pay credits will be given as follows:</p> <ol style="list-style-type: none"> 1. Salaried or hourly nonbargaining employees will receive an amount equal to 3% of compensation for each year where a year of accrual service is earned. 2. Bargaining employees at the Ashville location will receive \$50 per month (\$600 per year). 3. Bargaining employees at the Richmond, VA location will receive: <ul style="list-style-type: none"> \$60 per month (\$720 per year) on and after 6-1-03 and prior to 8-1-04 \$65 per month (\$780 per year) on and after 8-1-04 and prior to 8-1-05. \$70 per month (\$840 per year) on and after 8-1-05 and prior to 8-1-06 \$75 per month (\$900 per year) on and after 8-1-06 <p>Certain employees who were not vested in their Owens Corning cash balance benefit at 05/23/2003 received credit for prior service.</p>
NORMAL RETIREMENT	
<ul style="list-style-type: none"> Eligibility 	The first day of the month coincident with or next following the later of the attainment of age 65 or 5 years after his Entry Date.
<ul style="list-style-type: none"> Benefit 	Accrued Benefit at Normal Retirement Date
LATE RETIREMENT	
<ul style="list-style-type: none"> Eligibility 	Same as normal retirement benefit
<ul style="list-style-type: none"> Benefit 	Accrued Benefit at Late Retirement Date

Schedule SB, Part V — Summary of Plan Provisions

DEFERRED VESTED/EARLY RETIREMENT	
• Eligibility	100% vested at three years after January 1, 2008 100% vested at five years of vesting service prior to January 1, 2008. Provided, however, for an Employee whose Employment Commencement Date for purposes of Vesting Service occurred prior to January 1, 2003, 100% vested at three years of vesting service.
• Benefit	Equal to Accrued Benefit
DISABILITY RETIREMENT	
• Eligibility	Same as deferred vested benefit.
• Benefit	Equal to Accrued Benefit
PRE-RETIREMENT DEATH	
• Eligibility	Qualified married participant vested in an accrued benefit.
• Benefit	The greater of 1) or 2) 1. Monthly annuity payable for 5 years, and life thereafter, to the spouse or beneficiary, deferred to participant's earliest retirement date if later than the date of death. <u>Amount:</u> If death occurs, the amount paid to the surviving spouse is equal to the amount that would have been paid to the participant had he terminated employment on the date of death, survived to his earliest retirement age, and retired. 2. <u>Lump Sum</u> Amount: Present value of the accrued benefit, but not less than the cash balance account on the date of death.
FORM OF BENEFITS	
• Automatic form for unmarried participants	Life annuity with a five year certain period.
• Automatic form for married participants	Joint and 50% Survivor.
• Optional forms	Monthly annuity payable for life or life with Social Security Adjustment, or 5 or 10 years certain and life Monthly annuity payable as a survivorship life annuity with survivorship percentages of 50, 75, or 100 Lump Sum
• Actuarial equivalence	Mortality and phased-in interest rates set forth in Code Section 417(e)(3) as of the November preceding the beginning of the plan year.

Schedule SB, Part V — Summary of Plan Provisions

MISCELLANEOUS	
• Maximum benefits	Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2019, the limit is \$225,000.
• Administration	Administered by the Benefit Committee
• Funding medium	Trust
• Benefits not included in valuation	None

Benefits Included or Excluded

Unless noted below, all benefits provided by the plan, as restated are included in this valuation:

- **Plan amendments excluded:** Amendments adopted after the valuation date or effective after the current plan year are excluded from the valuation.
- **Late retirement increases:**
 - *Active participants:* The plan provides benefit suspension notices to participants who work beyond normal retirement; therefore, late retirement actuarial increases only apply to participants who defer retirement beyond age 70½.
 - *Deferred vested participants:* Current deferred vested participants over normal retirement age are not valued including the late retirement actuarial increase since we are just valuing the account balance as a lump sum.
- **Internal Revenue Code limitations:** The limitations of Internal Revenue Code Section 415(b) and 401(a)(17) have been incorporated into our calculations.
- **IRC Section 416 rules for top-heavy plans:** We did not test whether this plan is top-heavy (when the present value of benefits for key employees equals or exceeds 60% of the present value for all participants). However, we expect that the plan is not top-heavy due to the large number of rank-and-file participants; therefore, the funding target and target normal cost do not reflect any liability for top-heavy benefit accruals.
- **IRC Section 436 benefit restrictions:**
 - *Unpredictable contingent event benefits:* This plan does not have any unpredictable contingent event benefits.
 - *Plan amendments:* See above.
 - *Prohibited payments:* Limitations on prohibited benefits (if any) are reflected for annuity starting dates before the valuation date but are ignored for annuity starting dates on or after the valuation date.
 - *Benefit accruals:* The plan's funding target does not reflect any limitation on benefit accruals. The target normal cost does not reflect any limitation on benefit accruals.

Schedule SB, Part V — Summary of Plan Provisions

PLAN PROVISION CHANGES SINCE PRIOR VALUATION

Maximum benefit amounts under IRS rules were updated from \$220,000 in 2018 to \$225,000 in 2019.

Schedule SB, line 32 — Schedule of Amortization Bases

The total shortfall amortization charge is the sum of the individual shortfall amortization installments for each plan year since the IRC Section 430 changes made by the Pension Protection Act of 2006 (PPA) took effect for the plan. Although an individual shortfall amortization installment can be negative, the combined shortfall amortization charge cannot be less than \$0.

SHORTFALL BASES			
YEAR ESTABLISHED	OUTSTANDING BALANCE	YEARS REMAINING	2019 INSTALLMENT
2019	29,904	7	4,859
Total	\$ 29,904		\$ 4,859

Schedule SB, line 24 — Change in Actuarial Assumptions

ACTUARIAL ASSUMPTION CHANGES SINCE PRIOR VALUATION

- The interest crediting rate changed from 1.23% to 1.84% to reflect the historical spreads between high quality corporate bonds and the plan defined interest crediting rate.
- The expense component of the target normal cost increased from \$77,837 to \$100,000 to reflect our expectations for the current plan year.
- The expected return on asset assumption was updated from 7.10% in 2018 to 6.95% in 2019.