

TEST CERTIFICATE

Chemical Composition Prepared according to EN 10204 3.1
 Mechanical Properties Prepared according to EN 10204 2.2

| | | |
|--|------------------------------|------------------------------|
| Certificate No 540013 | Date 06.01.2021 | Dispatch No 2021000000146 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | Lot Class |
| Product Name MG 3 | Approvals DB, DNV-GL, TUV | |
| Standards AWS/ASME SFA - 5.18 ER70S-6, EN ISO 14341 - A G 46 4 C1 G 4Si1, EN ISO 14341 - A G 46 4 M21 G 4Si1, TS EN ISO 14341 - A G 46 4 C1 G 4Si1, TS EN ISO 14341 - A G 46 4 M21 G 4Si1 | | |

Solid Wire/Chemical Analysis(%)

| Lot No | Diameter (mm) | C | Si | Mn | P | S | Cr | Ni | Mo | Cu | V | Ti | Al | Zr |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 34505424 | 1.20 | 0,068 | 0,844 | 1,622 | 0,007 | 0,012 | 0,052 | 0,005 | 0,003 | 0,06 | 0,008 | 0,006 | 0,01 | 0,005 |
| 34505425 | 1.00 | 0,065 | 0,853 | 1,628 | 0,006 | 0,012 | 0,035 | 0,005 | 0,002 | 0,06 | 0,008 | 0,006 | 0,01 | 0,005 |
| 34505425 | 1.20 | 0,065 | 0,853 | 1,628 | 0,006 | 0,012 | 0,035 | 0,005 | 0,002 | 0,06 | 0,008 | 0,006 | 0,01 | 0,005 |
| 34505427 | 0.80 | 0,072 | 0,914 | 1,618 | 0,005 | 0,011 | 0,045 | 0,007 | 0,004 | 0,06 | 0,009 | 0,006 | 0,016 | 0,006 |
| 34505430 | 1.00 | 0,072 | 0,923 | 1,625 | 0,01 | 0,013 | 0,036 | 0,005 | 0,003 | 0,06 | 0,01 | 0,006 | 0,014 | 0,006 |
| 34510193 | 0.80 | 0,068 | 0,871 | 1,617 | 0,008 | 0,011 | 0,044 | 0,013 | 0,005 | 0,065 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34510193 | 1.00 | 0,068 | 0,871 | 1,617 | 0,008 | 0,011 | 0,044 | 0,013 | 0,005 | 0,065 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34510195 | 1.00 | 0,073 | 0,883 | 1,619 | 0,009 | 0,013 | 0,043 | 0,013 | 0,006 | 0,064 | 0,009 | 0,005 | 0,01 | 0,005 |
| 34510196 | 1.00 | 0,065 | 0,813 | 1,635 | 0,007 | 0,01 | 0,04 | 0,013 | 0,005 | 0,062 | 0,007 | 0,004 | 0,007 | 0,005 |
| 34510200 | 1.00 | 0,071 | 0,89 | 1,601 | 0,006 | 0,012 | 0,039 | 0,014 | 0,006 | 0,064 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34510200 | 1.20 | 0,071 | 0,89 | 1,601 | 0,006 | 0,012 | 0,039 | 0,014 | 0,006 | 0,064 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34510202 | 1.00 | 0,079 | 0,88 | 1,617 | 0,008 | 0,012 | 0,044 | 0,013 | 0,006 | 0,064 | 0,009 | 0,005 | 0,01 | 0,006 |

All-Weld-Metal Mechanical Properties - (Gas C1)

| Production No | Diameter(mm) | Quantity(kg) | Tensile Strength (N/mm2) | Yield Strength (N/mm2) | Elongation(%) | Impact Energy(J)(-40) |
|---------------|--------------|--------------|--------------------------|------------------------|---------------|-----------------------|
| 34505424 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34505425 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34505425 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34505427 | 0.80 | 1080 | 570 | 460 | 30 | 70 |
| 34505430 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34510193 | 0.80 | 1080 | 570 | 460 | 30 | 70 |
| 34510193 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34510195 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34510196 | 1.00 | 2160 | 570 | 460 | 30 | 70 |
| 34510200 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34510200 | 1.20 | 3240 | 570 | 460 | 30 | 70 |
| 34510202 | 1.00 | 1080 | 570 | 460 | 30 | 70 |

We hereby certify that the product described above "complies with the term of the order" and "conforms with the related international standards."

Certification Services



TEST CERTIFICATE

Chemical Composition Prepared according to EN 10204 3.1
 Mechanical Properties Prepared according to EN 10204 2.2

| | | |
|--|------------------------------|-----------------------------|
| Certificate No 539768 | Date 03.01.2021 | Dispatch No 202100000009 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | Lot Class |
| Product Name MG 3 | Approvals DB, DNV-GL, TUV | |
| Standards AWS/ASME SFA - 5.18 ER70S-6, EN ISO 14341 - A G 46 4 C1 G 4Si1, EN ISO 14341 - A G 46 4 M21 G 4Si1, TS EN ISO 14341 - A G 46 4 C1 G 4Si1, TS EN ISO 14341 - A G 46 4 M21 G 4Si1 | | |

Solid Wire/Chemical Analysis(%)

| Lot No | Diameter (mm) | C | Si | Mn | P | S | Cr | Ni | Mo | Cu | V | Ti | Al | Zr |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 34406502 | 1.20 | 0,075 | 0,91 | 1,654 | 0,009 | 0,013 | 0,032 | 0,009 | 0,003 | 0,062 | 0,01 | 0,005 | 0,008 | 0,005 |
| 34406504 | 1.20 | 0,078 | 0,858 | 1,682 | 0,009 | 0,012 | 0,032 | 0,01 | 0,004 | 0,061 | 0,008 | 0,004 | 0,007 | 0,005 |
| 34406506 | 1.00 | 0,076 | 0,888 | 1,665 | 0,01 | 0,013 | 0,043 | 0,009 | 0,006 | 0,062 | 0,009 | 0,005 | 0,008 | 0,005 |
| 34406507 | 1.20 | 0,075 | 0,88 | 1,666 | 0,008 | 0,013 | 0,041 | 0,01 | 0,005 | 0,063 | 0,009 | 0,005 | 0,008 | 0,005 |
| 34502683 | 1.20 | 0,075 | 0,899 | 1,649 | 0,007 | 0,011 | 0,032 | 0,008 | 0,003 | 0,068 | 0,009 | 0,005 | 0,01 | 0,005 |
| 34505428 | 1.20 | 0,068 | 0,925 | 1,62 | 0,007 | 0,013 | 0,037 | 0,006 | 0,004 | 0,061 | 0,009 | 0,005 | 0,013 | 0,006 |
| 34505430 | 1.00 | 0,072 | 0,923 | 1,625 | 0,01 | 0,013 | 0,036 | 0,005 | 0,003 | 0,06 | 0,01 | 0,006 | 0,014 | 0,006 |
| 34510193 | 1.00 | 0,068 | 0,871 | 1,617 | 0,008 | 0,011 | 0,044 | 0,013 | 0,005 | 0,065 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34510194 | 1.00 | 0,073 | 0,89 | 1,611 | 0,006 | 0,011 | 0,041 | 0,013 | 0,005 | 0,063 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34510195 | 1.00 | 0,073 | 0,883 | 1,619 | 0,009 | 0,013 | 0,043 | 0,013 | 0,006 | 0,064 | 0,009 | 0,005 | 0,01 | 0,005 |
| 34510202 | 1.00 | 0,079 | 0,88 | 1,617 | 0,008 | 0,012 | 0,044 | 0,013 | 0,006 | 0,064 | 0,009 | 0,005 | 0,01 | 0,006 |

All-Weld-Metal Mechanical Properties - (Gas C1)

| Production No | Diameter(mm) | Quantity(kg) | Tensile Strength (N/mm2) | Yield Strength (N/mm2) | Elongation(%) | Impact Energy(J)(-40) |
|---------------|--------------|--------------|--------------------------|------------------------|---------------|-----------------------|
| 34406502 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34406504 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34406506 | 1.00 | 2160 | 570 | 460 | 30 | 70 |
| 34406507 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34502683 | 1.20 | 2160 | 570 | 460 | 30 | 70 |
| 34505428 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34505430 | 1.00 | 2160 | 570 | 460 | 30 | 70 |
| 34510193 | 1.00 | 2160 | 570 | 460 | 30 | 70 |
| 34510194 | 1.00 | 1000 | 570 | 460 | 30 | 70 |
| 34510195 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34510202 | 1.00 | 1080 | 570 | 460 | 30 | 70 |

We hereby certify that the product described above "complies with the term of the order" and "comforms with the related international standards."

Certification Services



TEST CERTIFICATE

Chemical Composition Prepared according to EN 10204 3.1
Mechanical Properties Prepared according to EN 10204 2.2

| | | |
|--|------------------------------|------------------------------|
| Certificate No 545489 | Date 05.04.2021 | Dispatch No 2021000006182 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | Lot Class |
| Product Name MG 3 | Approvals DB, DNV-GL, TUV | |
| Standards AWS/ASME SFA - 5.18 ER70S-6, EN ISO 14341 - A G 46 4 C1 G 4Si1, EN ISO 14341 - A G 46 4 M21 G 4Si1, TS EN ISO 14341 - A G 46 4 C1 G 4Si1, TS EN ISO 14341 - A G 46 4 M21 G 4Si1 | | |

Solid Wire Chemical Analysis(%)

| Lot Num | Diameter (mm) | C | Si | Mn | P | S | Cr | Ni | Mo | Cu | V | Ti | Al | Zr |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 34510188 | 0.80 | 0,066 | 0,85 | 1,673 | 0,006 | 0,012 | 0,044 | 0,016 | 0,005 | 0,069 | 0,008 | 0,005 | 0,008 | 0,005 |
| 34510189 | 1.00 | 0,069 | 0,843 | 1,666 | 0,006 | 0,012 | 0,038 | 0,014 | 0,005 | 0,068 | 0,009 | 0,005 | 0,009 | 0,006 |
| 34510190 | 1.20 | 0,075 | 0,85 | 1,656 | 0,006 | 0,012 | 0,042 | 0,014 | 0,005 | 0,069 | 0,009 | 0,004 | 0,009 | 0,006 |
| 34510191 | 1.00 | 0,074 | 0,841 | 1,672 | 0,006 | 0,012 | 0,042 | 0,013 | 0,005 | 0,068 | 0,008 | 0,005 | 0,008 | 0,005 |
| 34510192 | 1.00 | 0,074 | 0,843 | 1,669 | 0,007 | 0,014 | 0,041 | 0,012 | 0,006 | 0,067 | 0,009 | 0,004 | 0,008 | 0,006 |
| 34510192 | 1.20 | 0,074 | 0,843 | 1,669 | 0,007 | 0,014 | 0,041 | 0,012 | 0,006 | 0,067 | 0,009 | 0,004 | 0,008 | 0,006 |
| 34510193 | 1.00 | 0,07 | 0,874 | 1,619 | 0,007 | 0,011 | 0,044 | 0,013 | 0,005 | 0,066 | 0,009 | 0,005 | 0,011 | 0,006 |

All-Weld-Metal Mechanical Properties - (Gas C1)

| Production Number | Diameter(mm) | Quantity(kg) | Tensile Strength (N/mm2) | Yield Strength (N/mm2) | Elongation(%) | Impact Energy(J)(-40) |
|-------------------|--------------|--------------|--------------------------|------------------------|---------------|-----------------------|
| 34510188 | 0.80 | 1080 | 570 | 460 | 30 | 70 |
| 34510189 | 1.00 | 2160 | 570 | 460 | 30 | 70 |
| 34510190 | 1.20 | 2160 | 570 | 460 | 30 | 70 |
| 34510191 | 1.00 | 7560 | 570 | 460 | 30 | 70 |
| 34510192 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34510192 | 1.20 | 4320 | 570 | 460 | 30 | 70 |
| 34510193 | 1.00 | 3240 | 570 | 460 | 30 | 70 |

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Certification Services



TEST CERTIFICATE

Chemical Composition Prepared according to EN 10204 3.1
 Mechanical Properties Prepared according to EN 10204 2.2

| | | |
|---|-------------------------------------|-------------------------------------|
| Certificate No 545838 | Date 12.04.2021 | Dispatch No 2021000006716 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | Lot Class |
| Product Name MG 3 | Approvals DB, DNV-GL, TUV | |
| Standards AWS/ASME SFA - 5.18 ER70S-6, EN ISO 14341 - A G 46 4 C1 G 4Si1, EN ISO 14341 - A G 46 4 M21 G 4Si1, TS EN ISO 14341 - A G 46 4 C1 G 4Si1, TS EN ISO 14341 - A G 46 4 M21 G 4Si1 | | |

Solid Wire Chemical Analysis(%)

| Lot Num | Diameter (mm) | C | Si | Mn | P | S | Cr | Ni | Mo | Cu | V | Ti | Al | Zr |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 34406503 | 1.20 | 0,077 | 0,892 | 1,677 | 0,01 | 0,014 | 0,035 | 0,01 | 0,004 | 0,062 | 0,009 | 0,005 | 0,009 | 0,005 |
| 34500571 | 1.00 | 0,074 | 0,895 | 1,613 | 0,007 | 0,011 | 0,029 | 0,009 | 0,003 | 0,069 | 0,009 | 0,005 | 0,01 | 0,006 |
| 34500750 | 1.20 | 0,077 | 0,87 | 1,652 | 0,007 | 0,011 | 0,031 | 0,011 | 0,004 | 0,077 | 0,009 | 0,006 | 0,01 | 0,006 |
| 34500755 | 1.20 | 0,076 | 0,883 | 1,631 | 0,006 | 0,011 | 0,023 | 0,01 | 0,003 | 0,069 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34500756 | 1.20 | 0,067 | 0,865 | 1,651 | 0,009 | 0,011 | 0,021 | 0,01 | 0,004 | 0,071 | 0,009 | 0,005 | 0,01 | 0,006 |
| 34500757 | 1.00 | 0,076 | 0,89 | 1,636 | 0,008 | 0,011 | 0,026 | 0,009 | 0,003 | 0,069 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34500758 | 1.00 | 0,074 | 0,881 | 1,65 | 0,006 | 0,012 | 0,033 | 0,008 | 0,003 | 0,067 | 0,009 | 0,005 | 0,01 | 0,006 |
| 34500758 | 1.00 | 0,074 | 0,881 | 1,65 | 0,006 | 0,012 | 0,033 | 0,008 | 0,003 | 0,067 | 0,009 | 0,005 | 0,01 | 0,006 |
| 34500759 | 1.00 | 0,075 | 0,888 | 1,634 | 0,006 | 0,012 | 0,038 | 0,009 | 0,004 | 0,069 | 0,009 | 0,005 | 0,012 | 0,006 |
| 34500759 | 1.20 | 0,075 | 0,888 | 1,634 | 0,006 | 0,012 | 0,038 | 0,009 | 0,004 | 0,069 | 0,009 | 0,005 | 0,012 | 0,006 |
| 34505425 | 0.80 | 0,073 | 0,877 | 1,629 | 0,005 | 0,011 | 0,036 | 0,005 | 0,002 | 0,063 | 0,009 | 0,006 | 0,012 | 0,006 |
| 34510185 | 1.00 | 0,073 | 0,889 | 1,637 | 0,005 | 0,011 | 0,048 | 0,017 | 0,006 | 0,067 | 0,009 | 0,005 | 0,014 | 0,006 |
| 34510193 | 1.20 | 0,07 | 0,874 | 1,619 | 0,007 | 0,011 | 0,044 | 0,013 | 0,005 | 0,066 | 0,009 | 0,005 | 0,011 | 0,006 |
| 34510195 | 1.20 | 0,078 | 0,898 | 1,623 | 0,007 | 0,012 | 0,043 | 0,012 | 0,006 | 0,067 | 0,01 | 0,005 | 0,014 | 0,006 |

All-Weld-Metal Mechanical Properties - (Gas C1)

| Production Number | Diameter(mm) | Quantity(kg) | Tensile Strength (N/mm2) | Yield Strength (N/mm2) | Elongation(%) | Impact Energy(J)(-40) |
|-------------------|--------------|--------------|--------------------------|------------------------|---------------|-----------------------|
| 34406503 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34500571 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34500750 | 1.20 | 1000 | 570 | 460 | 30 | 70 |
| 34500755 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34500756 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34500757 | 1.00 | 3240 | 570 | 460 | 30 | 70 |
| 34500758 | 1.00 | 1000 | 570 | 460 | 30 | 70 |
| 34500758 | 1.00 | 2160 | 570 | 460 | 30 | 70 |
| 34500759 | 1.00 | 3240 | 570 | 460 | 30 | 70 |
| 34500759 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
| 34505425 | 0.80 | 1080 | 570 | 460 | 30 | 70 |
| 34510185 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34510193 | 1.20 | 1080 | 570 | 460 | 30 | 70 |

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Certification Services



| | | | | | | |
|----------|------|------|-----|-----|----|----|
| 34510195 | 1.20 | 1080 | 570 | 460 | 30 | 70 |
|----------|------|------|-----|-----|----|----|

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Certification Services



TEST CERTIFICATE

Chemical Composition Prepared according to EN 10204 3.1
Mechanical Properties Prepared according to EN 10204 2.2

| | | |
|--|------------------------------|------------------------------|
| Certificate No 545489 | Date 05.04.2021 | Dispatch No 2021000006182 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | Lot Class |
| Product Name MG 3 | Approvals DB, DNV-GL, TUV | |
| Standards AWS/ASME SFA - 5.18 ER70S-6, EN ISO 14341 - A G 46 4 C1 G 4Si1, EN ISO 14341 - A G 46 4 M21 G 4Si1, TS EN ISO 14341 - A G 46 4 C1 G 4Si1, TS EN ISO 14341 - A G 46 4 M21 G 4Si1 | | |

Solid Wire Chemical Analysis(%)

| Lot Num | Diameter (mm) | C | Si | Mn | P | S | Cr | Ni | Mo | Cu | V | Ti | Al | Zr |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 34510188 | 0.80 | 0,066 | 0,85 | 1,673 | 0,006 | 0,012 | 0,044 | 0,016 | 0,005 | 0,069 | 0,008 | 0,005 | 0,008 | 0,005 |
| 34510189 | 1.00 | 0,069 | 0,843 | 1,666 | 0,006 | 0,012 | 0,038 | 0,014 | 0,005 | 0,068 | 0,009 | 0,005 | 0,009 | 0,006 |
| 34510190 | 1.20 | 0,075 | 0,85 | 1,656 | 0,006 | 0,012 | 0,042 | 0,014 | 0,005 | 0,069 | 0,009 | 0,004 | 0,009 | 0,006 |
| 34510191 | 1.00 | 0,074 | 0,841 | 1,672 | 0,006 | 0,012 | 0,042 | 0,013 | 0,005 | 0,068 | 0,008 | 0,005 | 0,008 | 0,005 |
| 34510192 | 1.00 | 0,074 | 0,843 | 1,669 | 0,007 | 0,014 | 0,041 | 0,012 | 0,006 | 0,067 | 0,009 | 0,004 | 0,008 | 0,006 |
| 34510192 | 1.20 | 0,074 | 0,843 | 1,669 | 0,007 | 0,014 | 0,041 | 0,012 | 0,006 | 0,067 | 0,009 | 0,004 | 0,008 | 0,006 |
| 34510193 | 1.00 | 0,07 | 0,874 | 1,619 | 0,007 | 0,011 | 0,044 | 0,013 | 0,005 | 0,066 | 0,009 | 0,005 | 0,011 | 0,006 |

All-Weld-Metal Mechanical Properties - (Gas C1)

| Production Number | Diameter(mm) | Quantity(kg) | Tensile Strength (N/mm2) | Yield Strength (N/mm2) | Elongation(%) | Impact Energy(J)(-40) |
|-------------------|--------------|--------------|--------------------------|------------------------|---------------|-----------------------|
| 34510188 | 0.80 | 1080 | 570 | 460 | 30 | 70 |
| 34510189 | 1.00 | 2160 | 570 | 460 | 30 | 70 |
| 34510190 | 1.20 | 2160 | 570 | 460 | 30 | 70 |
| 34510191 | 1.00 | 7560 | 570 | 460 | 30 | 70 |
| 34510192 | 1.00 | 1080 | 570 | 460 | 30 | 70 |
| 34510192 | 1.20 | 4320 | 570 | 460 | 30 | 70 |
| 34510193 | 1.00 | 3240 | 570 | 460 | 30 | 70 |

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Certification Services

