

TEST CERTIFICATE

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

| | | |
|---|-------------------------------------|------------------------------------|
| Certificate No 524944 | Date 10.02.2020 | Dispatch No 202000000111 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | |
| 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 |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 27749290 | 1.00 | 0,073 | 1,013 | 1,638 | 0,003 | 0,015 | 0,03 | 0,034 | 0,018 | 0,077 | 0,007 | 0,011 | 0,007 | 0,011 |
| 27749300 | 1.00 | 0,07 | 1,042 | 1,642 | 0,002 | 0,015 | 0,024 | 0,03 | 0,013 | 0,076 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749330 | 1.00 | 0,071 | 1,035 | 1,636 | 0,003 | 0,015 | 0,024 | 0,037 | 0,012 | 0,081 | 0,007 | 0,011 | 0,007 | 0,012 |
| 27749330 | 1.00 | 0,071 | 1,035 | 1,636 | 0,003 | 0,015 | 0,024 | 0,037 | 0,012 | 0,081 | 0,007 | 0,011 | 0,007 | 0,012 |
| 27749330 | 1.20 | 0,071 | 1,035 | 1,636 | 0,003 | 0,015 | 0,024 | 0,037 | 0,012 | 0,081 | 0,007 | 0,011 | 0,007 | 0,012 |
| 27749340 | 1.00 | 0,078 | 1,028 | 1,645 | 0,003 | 0,014 | 0,028 | 0,035 | 0,009 | 0,079 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749340 | 1.20 | 0,078 | 1,028 | 1,645 | 0,003 | 0,014 | 0,028 | 0,035 | 0,009 | 0,079 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749350 | 1.20 | 0,076 | 1,006 | 1,652 | 0,003 | 0,014 | 0,027 | 0,034 | 0,012 | 0,076 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27941280 | 1.00 | 0,072 | 0,921 | 1,68 | 0,005 | 0,014 | 0,031 | 0,027 | 0,009 | 0,094 | 0,007 | 0,01 | 0,005 | 0,01 |
| 27941280 | 1.20 | 0,072 | 0,921 | 1,68 | 0,005 | 0,014 | 0,031 | 0,027 | 0,009 | 0,094 | 0,007 | 0,01 | 0,005 | 0,01 |
| 27941281 | 1.20 | 0,073 | 0,927 | 1,68 | 0,004 | 0,015 | 0,026 | 0,024 | 0,009 | 0,085 | 0,007 | 0,01 | 0,006 | 0,011 |
| 34280001 | 0.80 | 0,083 | 0,893 | 1,678 | 0,004 | 0,012 | 0,026 | 0,01 | 0,004 | 0,066 | 0,01 | 0,004 | 0,01 | 0,011 |

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

| Lot No | Diameter(mm) | Quantity(kg) | Tensile Strength | Yield Strength | Elongation(%) | Impact Energy(J)(-40) |
|----------|--------------|--------------|------------------|----------------|---------------|-----------------------|
| 27749290 | 1.00 | 1080 | 570 | 480 | 28 | 55 |
| 27749300 | 1.00 | 1080 | 570 | 480 | 28 | 55 |
| 27749330 | 1.00 | 1000 | 570 | 480 | 28 | 55 |
| 27749330 | 1.00 | 1080 | 570 | 480 | 28 | 55 |
| 27749330 | 1.20 | 3240 | 570 | 480 | 28 | 55 |
| 27749340 | 1.00 | 3240 | 570 | 480 | 28 | 55 |
| 27749340 | 1.20 | 2160 | 570 | 480 | 28 | 55 |
| 27749350 | 1.20 | 1080 | 570 | 480 | 28 | 55 |
| 27941280 | 1.00 | 1080 | 570 | 480 | 28 | 55 |
| 27941280 | 1.20 | 1080 | 570 | 480 | 28 | 55 |
| 27941281 | 1.20 | 3240 | 570 | 480 | 28 | 55 |
| 34280001 | 0.80 | 1080 | 570 | 480 | 28 | 55 |

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 527161 | Date 24.03.2020 | Dispatch No 20200003501 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | |
| 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 |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 27749290 | 1.00 | 0,07 | 0,985 | 1,65 | 0,003 | 0,015 | 0,029 | 0,034 | 0,018 | 0,078 | 0,007 | 0,01 | 0,008 | 0,011 |
| 27749310 | 1.20 | 0,068 | 0,982 | 1,668 | 0,003 | 0,015 | 0,023 | 0,032 | 0,014 | 0,082 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749320 | 1.00 | 0,068 | 0,986 | 1,661 | 0,002 | 0,016 | 0,022 | 0,029 | 0,011 | 0,077 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749320 | 1.20 | 0,068 | 0,986 | 1,661 | 0,002 | 0,016 | 0,022 | 0,029 | 0,011 | 0,077 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749330 | 1.00 | 0,069 | 1,016 | 1,642 | 0,003 | 0,015 | 0,024 | 0,037 | 0,012 | 0,081 | 0,007 | 0,011 | 0,007 | 0,012 |
| 27749350 | 1.20 | 0,072 | 0,977 | 1,669 | 0,003 | 0,014 | 0,027 | 0,033 | 0,011 | 0,077 | 0,007 | 0,01 | 0,006 | 0,011 |

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

| Lot No | Diameter(mm) | Quantity(kg) | Tensile Strength | Yield Strength | Elongation(%) | Impact Energy(J)(-40) |
|----------|--------------|--------------|------------------|----------------|---------------|-----------------------|
| 27749290 | 1.00 | 1080 | 570 | 480 | 28 | 55 |
| 27749310 | 1.20 | 3240 | 570 | 480 | 28 | 55 |
| 27749320 | 1.00 | 3240 | 570 | 480 | 28 | 55 |
| 27749320 | 1.20 | 1080 | 570 | 480 | 28 | 55 |
| 27749330 | 1.00 | 1080 | 570 | 480 | 28 | 55 |
| 27749350 | 1.20 | 1080 | 570 | 480 | 28 | 55 |

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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 528760 | Date 27.04.2020 | Dispatch No 20200005351 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | |
| 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 |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 27749310 | 0.80 | 0,068 | 0,982 | 1,667 | 0,003 | 0,015 | 0,023 | 0,032 | 0,014 | 0,082 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749310 | 1.20 | 0,068 | 0,982 | 1,667 | 0,003 | 0,015 | 0,023 | 0,032 | 0,014 | 0,082 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749320 | 1.00 | 0,068 | 0,991 | 1,659 | 0,002 | 0,016 | 0,022 | 0,029 | 0,011 | 0,077 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749320 | 1.20 | 0,068 | 0,991 | 1,659 | 0,002 | 0,016 | 0,022 | 0,029 | 0,011 | 0,077 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749330 | 1.00 | 0,069 | 1,016 | 1,641 | 0,003 | 0,015 | 0,024 | 0,037 | 0,012 | 0,081 | 0,007 | 0,011 | 0,007 | 0,012 |
| 27749350 | 1.00 | 0,072 | 0,978 | 1,668 | 0,003 | 0,014 | 0,027 | 0,033 | 0,011 | 0,077 | 0,007 | 0,01 | 0,006 | 0,011 |
| 27749350 | 1.20 | 0,072 | 0,978 | 1,668 | 0,003 | 0,014 | 0,027 | 0,033 | 0,011 | 0,077 | 0,007 | 0,01 | 0,006 | 0,011 |

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

| Lot No | Diameter(mm) | Quantity(kg) | Tensile Strength | Yield Strength | Elongation(%) | Impact Energy(J)(-40) |
|----------|--------------|--------------|------------------|----------------|---------------|-----------------------|
| 27749310 | 0.80 | 2160 | 570 | 480 | 28 | 55 |
| 27749310 | 1.20 | 1080 | 570 | 480 | 28 | 55 |
| 27749320 | 1.00 | 480 | 570 | 480 | 28 | 55 |
| 27749320 | 1.20 | 1080 | 570 | 480 | 28 | 55 |
| 27749330 | 1.00 | 1000 | 570 | 480 | 28 | 55 |
| 27749350 | 1.00 | 1080 | 570 | 480 | 28 | 55 |
| 27749350 | 1.20 | 2160 | 570 | 480 | 28 | 55 |

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 528927 | Date 04.05.2020 | Dispatch No 202000005665 |
| Customer ALUNOX SCHWEISSTECHNIK GMBH | | |
| 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 |
|----------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 27010708 | 1.00 | 0,077 | 0,878 | 1,601 | 0,008 | 0,011 | 0,048 | 0,02 | 0,004 | 0,069 | 0,007 | 0,002 | 0,006 | 0,011 |
| 27010708 | 1.20 | 0,077 | 0,878 | 1,601 | 0,008 | 0,011 | 0,048 | 0,02 | 0,004 | 0,069 | 0,007 | 0,002 | 0,006 | 0,011 |
| 27010709 | 1.20 | 0,081 | 0,882 | 1,621 | 0,009 | 0,011 | 0,028 | 0,015 | 0,005 | 0,066 | 0,007 | 0,002 | 0,007 | 0,011 |
| 27010710 | 1.20 | 0,078 | 0,879 | 1,6 | 0,005 | 0,012 | 0,031 | 0,015 | 0,004 | 0,066 | 0,007 | 0,001 | 0,006 | 0,011 |
| 27749310 | 1.20 | 0,068 | 0,982 | 1,667 | 0,003 | 0,015 | 0,023 | 0,032 | 0,014 | 0,082 | 0,007 | 0,011 | 0,006 | 0,011 |
| 27749330 | 1.20 | 0,069 | 1,016 | 1,641 | 0,003 | 0,015 | 0,024 | 0,037 | 0,012 | 0,081 | 0,007 | 0,011 | 0,007 | 0,012 |
| 27749350 | 0.80 | 0,072 | 0,978 | 1,668 | 0,003 | 0,014 | 0,027 | 0,033 | 0,011 | 0,077 | 0,007 | 0,01 | 0,006 | 0,011 |
| 27749350 | 1.00 | 0,072 | 0,978 | 1,668 | 0,003 | 0,014 | 0,027 | 0,033 | 0,011 | 0,077 | 0,007 | 0,01 | 0,006 | 0,011 |

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

| Lot No | Diameter(mm) | Quantity(kg) | Tensile Strength | Yield Strength | Elongation(%) | Impact Energy(J)(-40) |
|----------|--------------|--------------|------------------|----------------|---------------|-----------------------|
| 27010708 | 1.00 | 1080 | 570 | 480 | 28 | 55 |
| 27010708 | 1.20 | 3240 | 570 | 480 | 28 | 55 |
| 27010709 | 1.20 | 3240 | 570 | 480 | 28 | 55 |
| 27010710 | 1.20 | 4320 | 570 | 480 | 28 | 55 |
| 27749310 | 1.20 | 3240 | 570 | 480 | 28 | 55 |
| 27749330 | 1.20 | 3240 | 570 | 480 | 28 | 55 |
| 27749350 | 0.80 | 1080 | 570 | 480 | 28 | 55 |
| 27749350 | 1.00 | 2000 | 570 | 480 | 28 | 55 |

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Certification Services

