

Certificate for a welding procedure qualification record (WPQR)

Certificate no.: 0045/202/9120/Z/00069/20/V/000(00)

WPQR no.: VP1/19

Order no.: 2047/2019

WPS no.: pWPS/05/IKA/19

Test report no.: 0045/202/9120/P/00069/20/V/000(00)

Manufacturer: IKAPOL Marta Kozłowska

Address: ul. Żarska 9B
68-213 Lipinki Łużyckie

Test basis: PED 2014/68/EU, DIN EN ISO 15614-1 (Level 2)

| Range of qualification | |
|--|--|
| Welding process(es) acc. ISO 4063: | 135: (GMAW) / Partly Mechanized |
| Deposited thickness s [mm]: | - |
| Product form: | Plate, pipe |
| Type of joint and weld: | FW Fillet weld and other according to Chapt. 8.4.3 EN ISO 15614-1 |
| Parent material (sub)group(s): | Material group No. 1.1 (Reh ≤235MPa) / Material group No. 1.1 (Reh ≤235MPa) and other of combinations of materials acc. to EN ISO 15614-1 Chapt. 8.3.1 and Table 5 |
| Parent material thickness t [mm]: | From 2.1 to 6.0 |
| Throat thickness [mm]: | From 3.0 to 6.0 |
| Single layer / multi layer: | sl and other acc. to Chapt. 8.4.3 EN ISO 15614-1 |
| Outside pipe diameter [mm]: | > 500 or >150 (PF, PA - rotated positions, PC) |
| Filler material designation: | 135: G 42 4 M21 4Si1 acc. to EN ISO 14341-A |
| Filler material make: | 135: OK AristoRod 12.63 (Esab) |
| Filler material size [mm]: | 1.2 and other acc. To Chapt. 8.4.5 EN ISO 15614-1 |
| Designation of shielding gas / flux: | 135: M21 acc. EN ISO 14175 |
| Designation of backing gas: | -- |
| Type of welding current and polarity: | 135: = / + (DC/RP) |
| Transfer mode acc. ISO 4063: | spray, pulse or globular |
| Heat input [kJ/mm]: | 0,52 see also Chapt. 8.4.7 EN ISO 15614-1 |
| Welding position(s) acc. ISO 6947: | PB acc. to EN ISO 6947 and other acc. to Chapt. 8.4.2 EN ISO 15614-1 |
| Preheat temperature [°C]: | Min. 15 |
| Interpass temperature [°C]: | -- |
| Post weld heat treatment: | -- |
| Other information: | Power source without pulsed mode and without waveform control Esab 400i CC/CV |

Remarks: An evidence of notch impact strength has not been executed.

In case of manufacture according to directive 2014/68/EU, all requirements of the directive regarding manufacturing and materials apply.

We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements in accordance with the test basis.

Attachment:

WPS No. of the manufacturer: pWPS/05/IKA/19
Report of welding procedure qualification test.:
0045/202/9120/P/00069/20/V/000(00)



Notified body 0045 for pressure equipment

Katowice, 31.03.2020

Pawel Kaczmarek
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Certificate for a welding procedure qualification record (WPQR)

Certificate no.: 0045/202/9120/Z/00070/20/V/000(00)

WPQR no.: VP2/19

Order no.: 2047/2019

WPS no.: pWPS/01/IKA/19

Test report no.: 0045/202/9120/P/00070/20/V/000(00)

Manufacturer: IKAPOL Marta Kozłowska

Address: ul. Żarska 9B
68-213 Lipinki Łużyckie

Test basis: PED 2014/68/EU, DIN EN ISO 15614-1 (Level 2)

| Range of qualification | |
|--|--|
| Welding process(es) acc. ISO 4063: | 135: (GMAW) / Partly Mechanized |
| Deposited thickness s [mm]: | - |
| Product form: | Plate, profile, pipe |
| Type of joint and weld: | FW Fillet weld and other according to Chapt. 8.4.3 EN ISO 15614-1 |
| Parent material (sub)group(s): | Material group No. 1.1 (Reh ≤235MPa) / Material group No. 1.1 (Reh ≤235MPa) and other of combinations of materials acc. to EN ISO 15614-1 Chapt. 8.3.1 and Table 5 |
| Parent material thickness t [mm]: | From 2.1 to 6.0 |
| Throat thickness [mm]: | From 3.0 to 6.0 |
| Single layer / multi layer: | sl and other acc. to Chapt. 8.4.3 EN ISO 15614-1 |
| Outside pipe diameter [mm]: | > 500 or >150 (PF, PA - rotated positions, PC) |
| Filler material designation: | 135: G 42 4 M21 4Si1 acc. to EN ISO 14341-A |
| Filler material make: | 135: OK AristoRod 12.63 (Esab) |
| Filler material size [mm]: | 1.2 and other acc. To Chapt. 8.4.5 EN ISO 15614-1 |
| Designation of shielding gas / flux: | 135: M21 acc. EN ISO 14175 |
| Designation of backing gas: | -- |
| Type of welding current and polarity: | 135: = / + (DC/RP) |
| Transfer mode acc. ISO 4063: | spray, pulse or globular |
| Heat input [kJ/mm]: | 0,56 see also Chapt. 8.4.7 EN ISO 15614-1 |
| Welding position(s) acc. ISO 6947: | PB acc. to EN ISO 6947 and other acc. to Chapt. 8.4.2 EN ISO 15614-1 |
| Preheat temperature [°C]: | Min. 15 |
| Interpass temperature [°C]: | -- |
| Post weld heat treatment: | -- |
| Other information: | Power source without pulsed mode and without waveform control Esab 400i CC/CV |

Remarks: An evidence of notch impact strength has not been executed.

In case of manufacture according to directive 2014/68/EU, all requirements of the directive regarding manufacturing and materials apply.

We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements in accordance with the test basis.

Attachment:

WPS No. of the manufacturer: pWPS/01/IKA/19
Report of welding procedure qualification test.:
0045/202/9120/P/00070/20/V/000(00)



Notified body 0045 for pressure equipment

Katowice, 31.03.2020

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Certificate for a welding procedure qualification record (WPQR)

Certificate no.: 0045/202/9120/Z/00071/20/V/000(00)

WPQR no.: VP3/19

Order no.: 2047/2019

WPS no.: pWPS/02/IKA/19

Test report no.: 0045/202/9120/P/00071/20/V/000(00)

Manufacturer: IKAPOL Marta Kozłowska

Address: ul. Żarska 9B
68-213 Lipinki Łużyckie

Test basis: PED 2014/68/EU, DIN EN ISO 15614-1 (Level 2)

| Range of qualification | |
|---------------------------------------|--|
| Welding process(es) acc. ISO 4063: | 135: (GMAW) / Partly Mechanized |
| Deposited thickness s [mm]: | - |
| Product form: | Plate, profile, pipe |
| Type of joint and weld: | FW Fillet weld and other according to Chapt. 8.4.3 EN ISO 15614-1 |
| Parent material (sub)group(s): | Material group No. 1.1 (Reh ≤235MPa) / Material group No. 1.1 (Reh ≤235MPa) and other of combinations of materials acc. to EN ISO 15614-1 Chapt. 8.3.1 and Table 5 |
| Parent material thickness t [mm]: | Plate: from 3.0 to 20.0; Profile: from: 3.0 to 16.0 |
| Throat thickness [mm]: | No restriction |
| Single layer / multi layer: | ml and other acc. to Chapt. 8.4.3 EN ISO 15614-1 |
| Outside pipe diameter [mm]: | > 500 or >150 (PF, PA - rotated positions, PC) |
| Filler material designation: | 135: G 42 4 M21 4Si1 acc. to EN ISO 14341-A |
| Filler material make: | 135: OK AristoRod 12.63 (Esab) |
| Filler material size [mm]: | 1.2 and other acc. To Chapt. 8.4.5 EN ISO 15614-1 |
| Designation of shielding gas / flux: | 135: M21 acc.EN ISO 14175 |
| Designation of backing gas: | -- |
| Type of welding current and polarity: | 135: = / + (DC/RP) |
| Transfer mode acc. ISO 4063: | spray, pulse or globular |
| Heat input [kJ/mm]: | 0,55 + 0,56 see also Chapt. 8.4.7 EN ISO 15614-1 |
| Welding position(s) acc. ISO 6947: | PB acc. to EN ISO 6947 and other acc. to Chapt. 8.4.2 EN ISO 15614-1 |
| Preheat temperature [°C]: | Min. 15 |
| Interpass temperature [°C]: | Max. 250 |
| Post weld heat treatment: | -- |
| Other information: | Power source without pulsed mode and without waveform control Esab 400i CC/CV |

Remarks: An evidence of notch impact strength has not been executed.

In case of manufacture according to directive 2014/68/EU, all requirements of the directive regarding manufacturing and materials apply.

We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements in accordance with the test basis.

Attachment:

WPS No. of the manufacturer: pWPS/02/IKA/19
Report of welding procedure qualification test:
0045/202/9120/P/00071/20/V/000(00)



Notified body 0045 for pressure equipment

Katowice, 31.03.2020

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Certificate for a welding procedure qualification record (WPQR)

Certificate no.: 0045/202/9120/Z/00072/20/V/000(00)

| | |
|---|--|
| WPQR no.: VP4/19 | Order no.: 2047/2019 |
| WPS no.: pWPS/03/IKA/19 | Test report no.: 0045/202/9120/P/00072/20/V/000(00) |
| Manufacturer: IKAPOL Marta Kozłowska | |
| Address: ul. Żarska 9B 68-213 Lipinki Łużyckie | |
| Test basis: PED 2014/68/EU, DIN EN ISO 15614-1 (Level 2) | |

| | Range of qualification |
|--|--|
| Welding process(es) acc. ISO 4063: | 135: (GMAW) / Partly Mechanized |
| Deposited thickness s [mm]: | Max. 6.0 |
| Product form: | Plate, profile, pipe |
| Type of joint and weld: | FW/BW Fillet weld and butt weld and other according to Chapt. 8.4.3 EN ISO 15614-1 |
| Parent material (sub)group(s): | Material group No. 1.1 (Reh ≤235MPa) / Material group No. 1.1 (Reh ≤235MPa) and other of combinations of materials acc. to EN ISO 15614-1 Chapt. 8.3.1 and Table 5 |
| Parent material thickness t [mm]: | BW: from: 1.5 to: 6.0; FW: from: 2.1 to: 6.0 |
| Throat thickness [mm]: | From: 3.0 to 6.0 |
| Single layer / multi layer: | sl and other acc. to Chapt. 8.4.3 EN ISO 15614-1 |
| Outside pipe diameter [mm]: | > 500 or >150 (PF, PA - rotated positions, PC) |
| Filler material designation: | 135: G 42 4 M21 4Si1 acc. to EN ISO 14341-A |
| Filler material make: | 135: OK AristoRod 12.63 (Esab) |
| Filler material size [mm]: | 1.2 and other acc. To Chapt. 8.4.5 EN ISO 15614-1 |
| Designation of shielding gas / flux: | 135: M21 acc. EN ISO 14175 |
| Designation of backing gas: | -- |
| Type of welding current and polarity: | 135: = / + (DC/RP) |
| Transfer mode acc. ISO 4063: | spray, pulse or globular |
| Heat input [kJ/mm]: | 0,58 see also Chapt. 8.4.7 EN ISO 15614-1 |
| Welding position(s) acc. ISO 6947: | PA, PB acc. to EN ISO 6947 and other acc. to Chapt. 8.4.2 EN ISO 15614-1 |
| Preheat temperature [°C]: | Min. 15 |
| Interpass temperature [°C]: | -- |
| Post weld heat treatment: | -- |
| Other information: | Power source without pulsed mode and without waveform control Esab 400i CC/CV |

Remarks: An evidence of notch impact strength has not been executed.

In case of manufacture according to directive 2014/68/EU, all requirements of the directive regarding manufacturing and materials apply.

We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements in accordance with the test basis.

Attachment:

WPS No. of the manufacturer: pWPS/03/IKA/19
Report of welding procedure qualification test.:
0045/202/9120/P/00072/20/V/000(00)



Notified body 0045 for pressure equipment

Katowice, 31.03.2020

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Certificate for a welding procedure qualification record (WPQR)

Certificate no.: 0045/202/9120/Z/00073/20/V/000(00)

| | |
|---|--|
| WPQR no.: VP5/19 | Order no.: 2047/2019 |
| WPS no.: pWPS/04/IKA/19 | Test report no.: 0045/202/9120/P/00073/20/V/000(00) |
| Manufacturer: IKAPOL Marta Kozłowska | |
| Address: ul. Żarska 9B 68-213 Lipinki Łużyckie | |
| Test basis: PED 2014/68/EU, DIN EN ISO 15614-1 (Level 2) | |

| Range of qualification | |
|--|--|
| Welding process(es) acc. ISO 4063: | 135: (GMAW) / Partly Mechanized |
| Deposited thickness s [mm]: | Max. 16.0 |
| Product form: | Plate, profile, pipe |
| Type of joint and weld: | BW/FW Fillet weld and butt weld and other according to Chapt. 8.4.3 EN ISO 15614-1 |
| Parent material (sub)group(s): | Material group No. 1.1 (Reh ≤235MPa) / Material group No. 1.1 (Reh ≤235MPa) and other of combinations of materials acc. to EN ISO 15614-1 Chapt. 8.3.1 and Table 5 |
| Parent material thickness t [mm]: | BW: from: 4.0 to: 7.8; FW: from: 3.0 to: 16.0 |
| Throat thickness [mm]: | No restriction |
| Single layer / multi layer: | ml and other acc. to Chapt. 8.4.3 EN ISO 15614-1 |
| Outside pipe diameter [mm]: | > 500 or >150 (PF, PA - rotated positions, PC) |
| Filler material designation: | 135: G 42 4 M21 4Si1 acc. to EN ISO 14341-A |
| Filler material make: | 135: OK AristoRod 12.63 (Esab) |
| Filler material size [mm]: | 1.2 and other acc. To Chapt. 8.4.5 EN ISO 15614-1 |
| Designation of shielding gas / flux: | 135: M21 acc. EN ISO 14175 |
| Designation of backing gas: | -- |
| Type of welding current and polarity: | 135: = / + (DC/RP) |
| Transfer mode acc. ISO 4063: | spray, pulse or global |
| Heat input [kJ/mm]: | 0,61 + 0,63 see also Chapt. 8.4.7 EN ISO 15614-1 |
| Welding position(s) acc. ISO 6947: | PA, PB acc. to EN ISO 6947 and other acc. to Chapt. 8.4.2 EN ISO 15614-1 |
| Preheat temperature [°C]: | Min. 15 |
| Interpass temperature [°C]: | -- |
| Post weld heat treatment: | -- |
| Other information: | Power source without pulsed mode and without waveform control Esab 400i CC/CV |

Remarks: An evidence of notch impact strength has not been executed.

In case of manufacture according to directive 2014/68/EU, all requirements of the directive regarding manufacturing and materials apply. We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements in accordance with the test basis.

Attachment:

WPS No. of the manufacturer: pWPS/04/IKA/19
Report of welding procedure qualification test.:
0045/202/9120/P/00073/20/V/000(00)



Notified body 0045 for pressure equipment

Katowice, 31.03.2020

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Certificate for a welding procedure qualification record (WPQR)

Certificate no.: 0045/202/9120/Z/00074/20/V/000(00)

WPQR no.: VP6/19

Order no.: 2047/2019

WPS no.: pWPS/06/IKA/19

Test report no.: 0045/202/9120/P/00074/20/V/000(00)

Manufacturer: IKAPOL Marta Kozłowska

Address: ul. Żarska 9B
68-213 Lipinki Łużyckie

Test basis: PED 2014/68/EU, DIN EN ISO 15614-1 (Level 2)

| Range of qualification | |
|--|--|
| Welding process(es) acc. ISO 4063: | 135: (GMAW) / Partly Mechanized |
| Deposited thickness s [mm]: | - |
| Product form: | Plate, pipe |
| Type of joint and weld: | FW Fillet weld and other according to Chapt. 8.4.3 EN ISO 15614-1 |
| Parent material (sub)group(s): | Material group No. 1.1 (Reh ≤235MPa) / Material group No. 1.1 (Reh ≤235MPa) and other of combinations of materials acc. to EN ISO 15614-1 Chapt. 8.3.1 and Table 5 |
| Parent material thickness t [mm]: | From 3.0 to 16.0 |
| Throat thickness [mm]: | No restriction |
| Single layer / multi layer: | ml and other acc. to Chapt. 8.4.3 EN ISO 15614-1 |
| Outside pipe diameter [mm]: | > 500 or >150 (PF, PA - rotated positions, PC) |
| Filler material designation: | 135: G 42 4 M21 4Si1 acc. to EN ISO 14341-A |
| Filler material make: | 135: OK AristoRod 12.63 (Esab) |
| Filler material size [mm]: | 1.2 and other acc. To Chapt. 8.4.5 EN ISO 15614-1 |
| Designation of shielding gas / flux: | 135: M21 acc. EN ISO 14175 |
| Designation of backing gas: | -- |
| Type of welding current and polarity: | 135: = / + (DC/RP) |
| Transfer mode acc. ISO 4063: | spray, pulse or globular |
| Heat input [kJ/mm]: | 0,56 + 0,59 see also Chapt. 8.4.7 EN ISO 15614-1 |
| Welding position(s) acc. ISO 6947: | PB acc. to EN ISO 6947 and other acc. to Chapt. 8.4.2 EN ISO 15614-1 |
| Preheat temperature [°C]: | Min. 15 |
| Interpass temperature [°C]: | Max. 250 |
| Post weld heat treatment: | -- |
| Other information: | Power source without pulsed mode and without waveform control Esab 400i CC/CV |

Remarks: An evidence of notch impact strength has not been executed.

In case of manufacture according to directive 2014/68/EU, all requirements of the directive regarding manufacturing and materials apply.

We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements in accordance with the test basis.

Attachment:

WPS No. of the manufacturer: pWPS/06/IKA/19
Report of welding procedure qualification test.:
0045/202/9120/P/00074/20/V/000(00)



Notified body 0045 for pressure equipment

Katowice, 31.03.2020

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Certificate for a welding procedure qualification record (WPQR)

Certificate no.: 0045/202/9120/Z/00075/20/V/000(00)

WPQR no.: VP7/19

Order no.: 2047/2019

WPS no.: pWPS/07/IKA/19

Test report no.: 0045/202/9120/P/00075/20/V/000(00)

Manufacturer: IKAPOL Marta Kozłowska

Address: ul. Żarska 9B
68-213 Lipinki Łużyckie

Test basis: PED 2014/68/EU, DIN EN ISO 15614-1 (Level 2)

| Range of qualification | |
|---------------------------------------|--|
| Welding process(es) acc. ISO 4063: | 135: (GMAW) / Partly Mechanized |
| Deposited thickness s [mm]: | Max. 6.0 |
| Product form: | Plate, pipe |
| Type of joint and weld: | BW Butt weld full penetration and other according to Chapt. 8.4.3 EN ISO 15614-1 |
| Parent material (sub)group(s): | Material group No. 1.1 (Reh \leq 235MPa) / Material group No. 1.1 (Reh \leq 235MPa) and other of combinations of materials acc. to EN ISO 15614-1 Chapt. 8.3.1 and Table 5 |
| Parent material thickness t [mm]: | From 1.5 to 6.0 |
| Throat thickness [mm]: | -- |
| Single layer / multi layer: | sl and other acc. to Chapt. 8.4.3 EN ISO 15614-1 |
| Outside pipe diameter [mm]: | > 500 or >150 (PF, PA - rotated positions, PC) |
| Filler material designation: | 135: G 42 4 M21 4Si1 acc. to EN ISO 14341-A |
| Filler material make: | 135: OK AristoRod 12.63 (Esab) |
| Filler material size [mm]: | 1.2 and other acc. To Chapt. 8.4.5 EN ISO 15614-1 |
| Designation of shielding gas / flux: | 135: M21 acc. EN ISO 14175 |
| Designation of backing gas: | -- |
| Type of welding current and polarity: | 135: = / + (DC/RP) |
| Transfer mode acc. ISO 4063: | Short circuiting |
| Heat input [kJ/mm]: | 0,516 see also Chapt. 8.4.7 EN ISO 15614-1 |
| Welding position(s) acc. ISO 6947: | PA acc. to EN ISO 6947 and other acc. to Chapt. 8.4.2 EN ISO 15614-1 |
| Preheat temperature [°C]: | Min. 15 |
| Interpass temperature [°C]: | -- |
| Post weld heat treatment: | -- |
| Other information: | Power source without pulsed mode and without waveform control Esab 400i CC/CV |

Remarks: An evidence of notch impact strength has not been executed.

In case of manufacture according to directive 2014/68/EU, all requirements of the directive regarding manufacturing and materials apply.

We confirm that the statements in this record are correct and that the test pieces were prepared, welded, tested and have fulfilled the requirements in accordance with the test basis.

Attachment:

WPS No. of the manufacturer: pWPS/07/IKA/19
Report of welding procedure qualification test.:
0045/202/9120/P/00075/20/V/000(00)



Notified body 0045 for pressure equipment

Katowice, 31.03.2020

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