

WELDING PROCEDURE QUALIFICATION RECORD (WPQR)



N. 06DG00219PO1/A

Manufacturer **ELETTROMECCANICA SAC srl - CORIGLIANO (CS)**
WPQR No. **01/06** Dated **23/05/2006**
Manufacturer's welding procedure (WPS) No. **ES 01/06** Dated **14/03/2006**

RANGE OF APPROVAL

Welding process **135** Type **Fully mechanized**
Joint type **Cap to pipe production joint**
Single/Multiple pass **Multiple**
Parent material group(s) **1-1 (Subgroup 1.1 to 1.2 only)** CR ISO 15608
Parent material thickness (mm) Butt Joint: $t_1 = 3 \text{ to } 20$ $t_2 = 3 \text{ to } 24$
Weld deposit thickness (mm) **3 to 20**
Outside diameter (mm) **45 and over**
Filler metal type **Solid wire AWS A5.18: - ER70S-7 (*)**
Shielding gas (EN 439) **M21 with max. CO2 % = 22** Backing gas (EN 439) **N.A.**
Type of welding current **DCEP** Heat input Kj/cm **All**
Welding position **PA**
Preheat min. (°C) **N.A.** Interpass temp. Max. (°C) **250**
Post weld heat treatment / Ageing **None**
Other information **(*) EN classification not available at Manufacturer**

Welders name **LAPEGNA Salvatore** Stamp No. **LS**
Welding test conducted by **ELETTROMECCANICA SAC srl - CORIGLIANO (CS)**
Mechanical test conducted by **BELLELI RICERCHE SpA** Laboratory test No. **192-06**
At presence of RINA Surveyor **S. Bottari**

We certify that statements in this certificate are correct and that the test welds were prepared, welded and tested in accordance with the requirements of **EN ISO 15613: 2004** Standard

Issued at: **Genova**

on **14 June 2006**



Manuela Boffi
RINA - REGISTRO ITALIANO NAVALE

WELDING PROCEDURE QUALIFICATION RECORD (WPQR)



N. 06DG00219PO2/A

Manufacturer **ELETTROMECCANICA SAC srl - CORIGLIANO (CS)**
WPQR No. **02/06** Dated **23/05/2006**
Manufacturer's welding procedure (WPS) No. **ES 03/06** Dated **14/03/2006**

RANGE OF APPROVAL

Welding process **135** Type **Fully mechanized**
Joint type **Plates and Pipes FW**
Single/Multiple pass **Cap to pipe production joint**
Parent material group(s) **1-1 (Subgroup 1.1 to 1.2 only) CR ISO 15608**
Parent material thickness (mm) Butt Joint : Fillet Joint **t₁ = 15 to 60 t₂ = 15 to 60**
Weld deposit thickness (mm) **15 to 46**
Outside diameter (mm) **145 and over**
Filler metal type **Solid wire AWS A5.18: ER70S-7 (*)**
Shielding gas (EN 439) **M21 with max. CO₂ % = 22** Backing gas (EN 439) **N.A.**
Type of welding current **DCEP** Heat input Kj/cm **All**
Welding position **PA**
Preheat min. (°C) **N.A.** Interpass temp. Max. (°C) **250**
Post weld heat treatment / Ageing **None**
Other information **(*) EN classification not available at Manufacturer**

Welders name **LAPEGNA Salvatore** Stamp No. **LS**
Welding test conducted by **ELETTROMECCANICA SAC srl - CORIGLIANO (CS)**
Mechanical test conducted by **BELLELI RICERCHE SpA** Laboratory test No. **194-06**
At presence of RINA Surveyor **S. Bottari**

We certify that statements in this certificate are correct and that the test welds were prepared, welded and tested in accordance with the requirements of **ISO 15613: 2004** Standard

Issued at: **Genova**

on **14 June 2006**



RINA · REGISTRO ITALIANO NAVALE

WELDING PROCEDURE QUALIFICATION RECORD (WPQR)



N. 06DG00219PO3/A

Manufacturer **ELETTROMECCANICA SAC srl - CORIGLIANO (CS)**
WPQR No. **03/06** Dated **23/05/2006**
Manufacturer's welding procedure (WPS) No. **ES 04/06** Dated **14/03/2006**

RANGE OF APPROVAL

Welding process **135** Type **Fully mechanized**
Joint type **Plates and Pipes FW**
Single/Multiple pass **Single**
Parent material group(s) **1-1 (Subgroup 1.1 to 1.3)** CR ISO 15608
Parent material thickness (mm) **Butt Joint = N.A. Fillet Joint $t_1 = 3.0$ to 6.0 $t_2 = 3.0$ to 6.0**
Throat thickness (mm) **3.75 to 7.50**
Weld deposit thickness (mm) **N.A.**
Outside diameter (mm) **25 and over**
Filler metal type **Solid wire AWS A5.18: ER 70S-7 (*)**
Shielding gas (EN 439) **M21 with max. CO2 % = 22** Backing gas (EN 439) **N.A.**
Type of welding current **DCEP** Heat input Kj/cm **All**
Welding position **PA**
Preheat min. (°C) **N.A.** Interpass temp. Max. (°C) **250**
Post weld heat treatment / Ageing **None**
Other information **(*) EN classification not available at Manufacturer**

Welders name **LAPEGNA Salvatore** Stamp No. **LS**
Welding test conducted by **ELETTROMECCANICA SAC srl - CORIGLIANO (CS)**
Mechanical test conducted by **BELLELI RICERCHE SpA** Laboratory test No. **195-06**
At presence of RINA Surveyor **S. Bottari**

We certify that statements in this certificate are correct and that the test welds were prepared, welded and tested in accordance with the requirements of **UNI EN ISO 15614-1: 2005** Standard

Issued at: Genova

on 14 June 2006



RINA · REGISTRO ITALIANO NAVALE

WELDING PROCEDURE QUALIFICATION RECORD (WPQR)

N. 06DG00219PO4/A



Manufacturer **ELETTROMECCANICA SAC srl - CORIGLIANO (CS)**
WPQR No. **04/06** Dated **23/05/2006**
Manufacturer's welding procedure (WPS) No. **ES 02/06** Dated **14/03/2006**

RANGE OF APPROVAL

Welding process **135** Type **Partly mechanized**
Joint type **Plates and Pipes FW**
Single/Multiple pass **Multiple**
Parent material group(s) **1-1 (Subgroup 1.1 and 1.2 only) CR ISO 15608**
Parent material thickness (mm) **Butt Joint = N.A. Fillet Joint t₁ = 5.0 to 12.0 t₂ = 5.0 to 12.0**
Throat thickness (mm) **No restriction**
Weld deposit thickness (mm) **N.A.**
Outside diameter (mm) **60 and over**
Filler metal type **Solid wire AWS A5.18: ER70S-7 (*)**
Shielding gas (EN 439) **M21 with max. CO₂ % = 22 Backing gas (EN 439) N.A.**
Type of welding current **DCEP Heat input Kj/cm All**
Welding position **PA**
Preheat min. (°C) **N.A. Interpass temp. Max. (°C) 250**
Post weld heat treatment / Ageing **None**
Other information **(*) EN classification not available at Manufacturer**

Welders name **LAPEGNA Salvatore** Stamp No. **LS**
Welding test conducted by **ELETTROMECCANICA SAC srl - CORIGLIANO (CS)**
Mechanical test conducted by **BELLELI RICERCHE SpA** Laboratory test No. **193-06**
At presence of RINA Surveyor **S. Bottari**

We certify that statements in this certificate are correct and that the test welds were prepared, welded and tested in accordance with the requirements of **UNI EN ISO 15614-1: 2005** Standard

Issued at: **Genova**

on **14 June 2006**



RINA · REGISTRO ITALIANO NAVALE