DEPREST OPERATIONS

PLASMA CUTTING

- Cutting area: 12 × 4 m for sheet, cutting thickness up to 120 mm, of which up to 50 mm without piercing
- Tubes up to diameter 700 mm
- Preformed ends up to diameter 4000 mm

PLATE ROLLING MACHINES AND PROFILE BENDING MACHINES

Plate rolling machine 3000 × 40 mm, 3-roll / diameter 450 mm
Plate rolling machine 2500 × 20 mm, 3-roll / diameter 300 mm
Plate rolling machine 1270 × 4 mm, 3-roll / diameter 140 mm
Various profile bending machines up to 3”

WELDING CAPABILITIES

2 submerged arc welding installations = SAW
PlasmaKey installations = PAW, including soft plasma welding
PlasmaKey installation with clamping bench
Various TIG welding stations up to 400A – GTAW
Tiptig
Various MIG/MAG welding stations – GMAW, incl. STT, TPS/i, Power Mode, Pulse on Pulse, Rapid X
Shielded metal arc welding – SMAW
Laser welding

VARIOUS MACHINES

Presses
Lathes and milling machines
Sawing machine
Shearing and punching

WORKSHOP

5300 m^2 with overhead cranes (up to 64 tons/crane), a total of 28 hoists
Test zones
Scissor lifts
Insulated pickling hall 20 × 12 m, 10 m high with spray and immersion pickling

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DEPREST NDO – NDT

Les inspections pouvant être effectuées dans notre atelier – éventuellement en collaboration avec un organisme notifié (Nobo) – sont assez étendues. Un aperçu non exhaustif de certains examens non destructifs (END) ou non destructive testing (NDT) :

Material quality control:

- **PMI** (*Positive Material Identification*) is a test that determines the chemical composition of a material. It is carried out using a relatively small but expensive device, comparable to a hair dryer. After the test, you obtain the chemical analysis of the material. Unless otherwise specified by the client, this can be done internally. Deprest does not own such a device itself but can use one through its connections.
    - Operates with X-rays (no radiation hazard)
    - CANNOT detect carbon
    - Determines which elements are present in the material; especially suitable for higher alloys such as stainless steel

Weld inspection:

- **VT (visual testing):** this is the standard visual inspection. It is a very thorough examination of the welds performed by a trained person, based on a procedure in accordance with ISO 5817. All welds must, by default, be 100% visually inspected.

- **PT (penetrant testing), also known as Dye Check:** this is the standard red-white test that reveals surface cracks. The spray cans with the penetrant liquid are readily available on the market. This test is often carried out internally, but the client may require the inspector to hold a specific certificate for this; occasionally, the client demands that a notified body (Nobo) performs it.

    - Applicable to all types of welds

    - Applicable to all materials

    - Disadvantage: it is a surface inspection; if defects are located below the surface, they will not be detected. In addition, the test takes quite a long time; it is not an open process and defects must be open to be found.

RX (radiographic testing, radiographic inspection or X-ray): these are the so-called “pictures”; this is always performed by a certified operator and has traditionally been one of the best-known volumetric examinations of welds. This X-ray inspection can be assessed according to various acceptance criteria.

- Only for butt welds (BW), not for fillet welds (FW)
- Possible for all materials
- Disadvantage: X-rays and exposure time can sometimes be long with thicker materials; the external body must work with two people and the radiation is harmful
- Advantage: it is a “contactless” inspection and there is evidence afterwards

DEPREST NDO – NDT

- **MT (magnetic testing / *magnetic particle inspection*), sometimes also referred to as MPI:** this is always carried out by a certified operator. See the example of a test report in .pdf below of a half-coil weld, welded with a TPS/i welding station.
    - Applicable to all types of welds
    - Only for carbon steel
    - It is a surface inspection that detects defects up to approximately 1 mm below the surface, even if they are not open at the surface
    - Disadvantage: not very convenient for small items, such as welds on small tube diameters
- **UT (examen par ultrasons) :** réalisé uniquement par un opérateur certifié
- **TOFD (Time Of Flight Diffraction) :** technique relativement nouvelle, utilisée pour les récipients en acier (soudures bout à bout), en remplacement de la radiographie. Elle utilise en réalité deux capteurs qui émettent et reçoivent des ondes sonores ; l'interprétation peut donc être effectuée ultérieurement.
- **Phased Array**
- **Essai à l'hélium :** lors de ce test, le récipient est rempli d'hélium à 0,5 bar. Ensuite, les soudures sont scannées avec un capteur par un organisme notifié (NoBo). Ce capteur « détecte » si l'hélium (l'atome le plus petit après l'hydrogène) passe à travers la soudure.

Additional inspections:

- **Hydrotest or water pressure test:** always carried out by us, with or without the presence of a
- Notified Body (NoBo). Deprest can test internally up to 250 bar using calibrated manometers.
  Eddy Current Test: essentially a spark test to check insulation; more commonly used, for example, to detect cracks in a liner.
- **Tape Test:** checks whether the surface is clean and counts the number of microparticles over a given area.
- **Surface roughness measurement: usually the Ra value in µm is measured;** if a client specifies particular requirements for surface roughness.