



Reg. Number	18029 - M	Valid From	2020-05-18
First issue date	2014-02-21	Last change date	2020-05-18
Valid until	2023-05-20		

Previous expiry date

Quality Management System Certificate

## ISO 13485:2016

We certify that the Quality Management System of the Organization:

### LANDANGER S.A.

Is in compliance with the standard UNI CEI EN ISO 13485:2016 for the following products/services:

Design management, production management of active and non active surgical instruments and endoscopy instruments. Design and production management for Class I non active surgical instruments, endoscopy instruments and containers for sterilization. Distribution of surgical instruments, endoscopy instruments and container for sterilization.

Chief Operating Officer  
Giampiero Belcredi

The maintaining of certification is subject to annual surveillance and dependent upon the observance of Kiwa Cermet Italia contractual requirements.

*The date of issuance of this certificate is the date of first issue by another accredited body*

This certificate is composed of 1 page.

Kiwa Cermet Italia S.p.A.  
Società con socio unico,  
soggetta all'attività di  
direzione e coordinamento di  
Kiwa Italia Holding Srl

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[www.kiwa.it](http://www.kiwa.it)

**CERMET**

### LANDANGER S.A.

#### Registered Headquarters

- 217-219 Rue du Faubourg Saint Honoré 75008 Paris France

#### Certified Sites

- Z.I. La vendue 52000 Chaumont France





Reg. Numero / Reg. Number	MED 31590	Revisione / Revision	0
Primo rilascio / First issue date	2020-07-09	Valido da / Valid from	2020-07-09
Scadenza / Valid until	2024-05-26	Ultima modifica / Last change date	2020-07-09

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## Certificato CE del Sistema di Garanzia della Qualità *EC Quality Assurance System Certificate*

Si certifica che, sulla base dei risultati degli audit effettuati, il Sistema completo di garanzia di Qualità dell'Organizzazione/ *We certify that, on the basis of the audits carried out, the full Quality Assurance System of the Organization:*

### LANDANGER S.A.

**Sede Operativa / Operative Site:**

Z.I. La vendue  
52000 Chaumont - Francia

**Sede Legale / Legal Site**

217-219 Rue du Faubourg Saint Honoré  
75008 Paris - Francia

è conforme ai requisiti applicabili della Direttiva 93/42/CEE e successive modifiche ed integrazioni, Allegato II escluso il pto 4, attuata in Italia con Dlgs. 46 del 1997/02/24 e successive modifiche ed integrazioni per le seguenti tipologie di Dispositivi Medici/ *Is in compliance with the applicable requirements of 93/42/EEC Directive as amended, Annex II without point 4, transposed in Italy by Dlgs. 46 of 1997/02/24 as amended for the following Medical Devices:*

Accessories for surgical instruments  
Active surgical instruments  
Anti-fog solution for endoscope  
Bipolar instruments for surgery  
Endoscopic instruments for uro-gynecology  
Monopolar instrument for surgery  
Non active surgical instruments  
Suction devices  
Suction-irrigation devices

Kiwa Cermet Italia S.p.A.  
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Rif. rapporto di audit/ *Ref. audit report:* del/dated 08-09-10/04/2020

Rif. analisi documentazione tecnica/ *Ref. technical documentation analysis:* del/dated 18/06/2019, 23/01/2020, 14/02/2020

**Chief Operating Officer**  
*Giampiero Belcredi*

Firmato digitalmente da:BELCREDI GIAMPIERO  
Data:10/07/2020 08:45:44



Organismo Notificato n. 0476  
*Notified Body nr. 0476*



Reg. Numero /  
Reg. Number MED 31590

Revisione /  
Revision 0

Primo rilascio /  
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Valido da /  
Valid from 2020-07-09

Scadenza /  
Valid until 2024-05-26

Ultima modifica /  
Last change date 2020-07-09

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CERTIFICATE

## Allegato tecnico al Certificato/ Technical sheet enclosed to the Certificate

### Identificazione dei Dispositivi Medici/ Identification of Medical Devices:

#### Tipologia / Medical Devices:

Accessories for surgical instruments

#### Classe di rischio / Risk class:

I s - Limitatamente agli aspetti relativi al mantenimento della sterilità / restricted to the aspects concerned the maintenance of sterile conditions

#### Codice NANDO / NANDO codes:

MD 0106, MDS 7006 Ethylene oxide gas sterilization (EOG)

#### Modello / Model:

Camera Sleeve

#### Tipologia / Medical Devices:

Active surgical instruments

#### Classe di rischio / Risk class:

II b

#### Codice NANDO / NANDO codes:

MD 1104

#### Modello / Model:

Active Sheath

#### Tipologia / Medical Devices:

Anti-fog solution for endoscope

#### Classe di rischio / Risk class:

II a

#### Codice NANDO / NANDO codes:

MD 0108, MDS 7006 Radiation

#### Modello / Model:

Anti-fog solution 5 ml with sponge

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Chief Operating Officer  
*Giampiero Belcredi*

Firmato digitalmente da:BELCREDI GIAMPIERO  
Data:10/07/2020 08:46:03



Organismo Notificato n. 0476  
Notified Body nr. 0476



Reg. Numero /  
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Last change date 2020-07-09

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CERTIFICATE

## Allegato tecnico al Certificato/ Technical sheet enclosed to the Certificate

### Identificazione dei Dispositivi Medici/ Identification of Medical Devices:

**Tipologia / Medical Devices:**  
Bipolar instruments for surgery

**Classe di rischio / Risk class:**

II a

**Codice NANDO / NANDO codes:**

MD 1104

**Modello / Model:**

Reusable working elements for bipolar instruments

**Classe di rischio / Risk class:**

II b

**Codice NANDO / NANDO codes:**

MD 0106

**Modello / Model:**

Reusable accessories for bipolar instruments

**Codice NANDO / NANDO codes:**

MD 1104

**Modello / Model:**

Reusable surgical instrument for endoscopy and open surgery

**Codice NANDO / NANDO codes:**

MD 1104, MDS 7006 Ethylene oxide gas sterilization (EOG)

**Modello / Model:**

Disposable bipolar instrument for endoscopy

**Tipologia / Medical Devices:**

Endoscopic instruments for uro-gynecology

**Classe di rischio / Risk class:**

II a

**Codice NANDO / NANDO codes:**

MD 0106

**Modello / Model:**

Reusable albarra deflector

**Chief Operating Officer**

*Giampiero Belcredi*

Firmato digitalmente da:BELCREDI GIAMPIERO  
Data:10/07/2020 08:46:22



Organismo Notificato n. 0476  
Notified Body nr. 0476

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*Reg. Number* MED 31590

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*First issue date* 2020-07-09

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*Valid from* 2020-07-09

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*Last change date* 2020-07-09

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## **Allegato tecnico al Certificato/ *Technical sheet enclosed to the Certificate***

### **Identificazione dei Dispositivi Medici/ *Identification of Medical Devices:***

#### **Tipologia / *Medical Devices:***

Endoscopic instruments for uro-gynecology

#### **Modello / Model:**

Reusable cystoscope sheath

#### **Modello / Model:**

Reusable guide tube for continuous irrigation

#### **Modello / Model:**

Reusable resectoscope sheath

#### **Modello / Model:**

Reusable urethrotome sheath

#### **Tipologia / *Medical Devices:***

Monopolar instrument for surgery

#### **Classe di rischio / *Risk class:***

II a

#### **Codice NANDO / *NANDO codes:***

MD 0106

#### **Modello / Model:**

Non active reusable accessory for monopolar surgical instruments

#### **Codice NANDO / *NANDO codes:***

MD 0106, MDS 7006 Ethylene oxide gas sterilization (EOG)

#### **Modello / Model:**

Non active disposable accessory for monopolar surgical instruments

#### **Classe di rischio / *Risk class:***

II b

#### **Codice NANDO / *NANDO codes:***

MD 1104

#### **Modello / Model:**

Active accessories for monopolar instruments

#### **Modello / Model:**

Monopolar active surgical instruments

### **Chief Operating Officer**

*Giampiero Belcredi*

Firmato digitalmente da:BELCREDI GIAMPIERO  
Data:10/07/2020 08:46:44



Organismo Notificato n. 0476  
*Notified Body nr. 0476*

CERTIFICATE

Kiwa Cermet Italia S.p.A.  
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## **Allegato tecnico al Certificato/ Technical sheet enclosed to the Certificate**

### **Identificazione dei Dispositivi Medici/ Identification of Medical Devices:**

#### **Tipologia / Medical Devices:**

Monopolar instrument for surgery

#### **Codice NANDO / NANDO codes:**

MD 1104, MDS 7006 Ethylene oxide gas sterilization (EOG)

#### **Modello / Model:**

Disposable active accessories for monopolar instruments

#### **Modello / Model:**

Disposable monopolar active surgical instruments

#### **Tipologia / Medical Devices:**

Non active surgical instruments

#### **Classe di rischio / Risk class:**

I s - Limitatamente agli aspetti relativi al mantenimento della sterilità / restricted to the aspects concerned the maintenance of sterile conditions

#### **Codice NANDO / NANDO codes:**

MD 0106, MDS 7006 Ethylene oxide gas sterilization (EOG)

#### **Modello / Model:**

Smoke evacuator

#### **Classe di rischio / Risk class:**

II a

#### **Codice NANDO / NANDO codes:**

MD 0102, MDS 7006 Ethylene oxide gas sterilization (EOG)

#### **Modello / Model:**

Insufflation needle

#### **Codice NANDO / NANDO codes:**

MD 0106

#### **Modello / Model:**

Non active reusable Trocar and Sheath

#### **Modello / Model:**

Reusable Veres needle

#### **Codice NANDO / NANDO codes:**

MD 0106, MDS 7006 Ethylene oxide gas sterilization (EOG)

### **Chief Operating Officer**

*Giampiero Belcredi*

Firmato digitalmente da:BELCREDI GIAMPIERO  
Data:10/07/2020 08:47:12



Organismo Notificato n. 0476  
Notified Body nr. 0476

CERTIFICATE

Kiwa Cermet Italia S.p.A.  
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CERTIFICATE

**Allegato tecnico al Certificato/  
Technical sheet enclosed to the Certificate**

**Identificazione dei Dispositivi Medici/ Identification of Medical Devices:**

**Tipologia / Medical Devices:**  
Non active surgical instruments

**Modello / Model:**  
Insufflation tubing

**Modello / Model:**  
Non active single use Trocar and Sheath

**Modello / Model:**  
Retrieval bag

**Modello / Model:**  
Wound Retractor

**Tipologia / Medical Devices:**  
Suction devices

**Classe di rischio / Risk class:**  
II a

**Codice NANDO / NANDO codes:**  
MD 0106

**Modello / Model:**  
Reusable suction tubes for open surgery

**Codice NANDO / NANDO codes:**  
MD 0106, MDS 7006 Ethylene oxide gas sterilization (EOG)

**Modello / Model:**  
Disposable suction tubes for open surgery

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**Chief Operating Officer**  
*Giampiero Belcredi*

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Data:10/07/2020 08:47:37



Organismo Notificato n. 0476  
Notified Body nr. 0476



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CERTIFICATE

## Allegato tecnico al Certificato/ Technical sheet enclosed to the Certificate

### Identificazione dei Dispositivi Medici/ Identification of Medical Devices:

**Tipologia / Medical Devices:**  
Suction-irrigation devices

**Classe di rischio / Risk class:**  
II a

**Codice NANDO / NANDO codes:**  
MD 0106

**Modello / Model:**  
Reusable cannulae

**Modello / Model:**  
Reusable endoscopic suction-irrigation devices

**Codice NANDO / NANDO codes:**  
MD 0106, MDS 7006 Ethylene oxide gas sterilization (EOG)

**Modello / Model:**  
Disposable endoscopic suction-irrigation devices

La lista completa dei codici, relativi ai modelli certificati, è disponibile presso Kiwa Cermet Italia./ *The complete list of the codes related to the certificated models is available at Kiwa Cermet Italia.* Il presente Certificato è soggetto al rispetto dei requisiti contrattuali di Kiwa Cermet Italia ed è valido solo per le tipologie di dispositivi sopra identificate soggette a sorveglianza/ *This Certificate is subject to Kiwa Cermet Italia regulations and it is valid only for the above mentioned Medical Devices that are subject to survey.* L'allegato tecnico è parte integrante del presente Certificato./ *The technical sheet is an integrating part of this Certificate.*

Kiwa Cermet Italia S.p.A.  
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**Chief Operating Officer**  
*Giampiero Belcredi*

Firmato digitalmente da:BELCREDI GIAMPIERO  
Data:10/07/2020 08:48:00



Organismo Notificato n. 0476  
Notified Body nr. 0476





# DECLARATION DE CONFORMITE



# DECLARATION OF CONFORMITY

Nous, Société / *We, Company* **LANDANGER**

Adresse de contact / *Contact address*: **ZI la Vendue, 52000 Chaumont – France**

Tél. : **03 25 02 10 10** – Fax : **03 25 02 10 20**

E-mail : **[landanger@landanger.com](mailto:landanger@landanger.com)**

Siège social / *Registered place of business*: **217-219 rue du faubourg Saint Honoré, 75008 Paris - France**

EN TANT QUE FABRICANT, DÉCLARONS SOUS NOTRE PROPRE RESPONSABILITE QUE LES  
DISPOSITIFS MÉDICAUX :

*AS MANUFACTURER, HEREBY DECLARE UNDER OUR SOLE RESPONSIBILITY THAT THE MEDICAL DEVICES:*

« **Accessories for surgical instruments**

**Active surgical instruments**

**Anti-fog solution for endoscope**

**Bipolar instruments for surgery**

**Endoscopic instruments for uro-gynecology**

**Monopolar instrument for surgery**

**Non active surgical instruments**

**Suction devices**

**Suction-irrigation devices.»**

**CLASSE Is, IIa et IIb**

*Voir liste jointe de 31 pages en annexe / see 31 pages enclosed list*

✓ Sont conformes au certificat KIWA Cermet Italia SpA – Via Cadriano, 23 – 40057 Granarolo dell’Emilia (BP) - Italia, CE 0476 n° MED 31590. délivrée le 10 JUILLET 2020.

*They are complying with the certificate KIWA Cermet Italia SpA – Via Cadriano, 23 – 40057 Granarolo dell’Emilia (BP) - Italia, CE 0476 n° MED 31590 delivered on July 10<sup>th</sup> 2020 .*

✓ Ne sont pas fabriqués à partir de tissus d’origine animale tels que visés dans le règlement européen 722/2012.

*Are not made from animal tissues as directed in the European Regulation 722/2012.*

✓ Ne contiennent pas de substances dérivées du sang humain tels que visées à la Directive Européenne 93/42/CEE.

*Do not contain substances produced from human blood as directed in the European Directive 93/42/CEE.*

✓ Satisfont aux dispositions du livre II du code de la santé publique.

*They satisfy the arrangements of the public health book II.*

Sont conformes à la Directive Européenne 93/42/CEE, et ses amendements, sur les dispositifs médicaux Annexe II (point 3) et appartiennent à la classe **Is, IIa et IIb**.

*Are complying with the European Directive 93/42/CEE, and its amemdments, concerning medical devices Appendix II (point 3) and belong to class **Is, IIa and IIb**.*

☞ De ce fait, je m’estime remplir les obligations des exigences essentielles selon l’Annexe I.

*Consequently, I commit myself to meet all the essential requirements obligations according to Appendix I.*

Chaumont, le *10 JUILLET 2020*

Le Directeur d’établissement,

*Director*

Didier DEBLAIZE

**L A N D A N G E R**

LANDANGER

Déclaration de conformité  
*Declaration of conformity*

Déclaration de conformité  
*Declaration of conformity*



Nous, Société / *We, Company* **LANDANGER**

Adresse de contact / *Contact address*: **ZI la Vendue, 52000 Chaumont – France**

Tél. : **03 25 02 10 10** – Fax : **03 25 02 10 20**

E-mail : **[landanger@landanger.com](mailto:landanger@landanger.com)**

Siège social / *Registered place of business*: **217-219 rue du faubourg Saint Honoré, 75008 Paris - France**

Enregistré sous le numéro / *Registered under the number*: **SRN: FR-MF-000000468**

EN TANT QUE FABRICANT, DÉCLARONS SOUS NOTRE PROPRE RESPONSABILITE QUE LES  
DISPOSITIFS MÉDICAUX :

*AS MANUFACTURER, HEREBY DECLARE UNDER OUR SOLE RESPONSIBILITY THAT THE MEDICAL DEVICES:*

**Gamme : Instrumentation Endoscopique**  
***Range : Endoscopic instrumentation***

*Voir liste jointe de 64 pages en annexe du 25/05/2021 / See 64 pages enclosed list from the 25/05/2021.*

- ✓ Sont conformes à la Directive Européenne 93/42/CEE, et ses amendements, sur les dispositifs médicaux et appartiennent à la classe **I**.  
*Are complying with the European Directive 93/42/CEE, and its amendments, concerning medical devices I.*
- ✓ Ne sont pas fabriqués à partir de tissus d'origine animale tels que visés dans le règlement européen 722/2012.  
*Are not made from animal tissues as directed in the European Regulation 722/2012.*
- ✓ Ne contiennent pas de substances dérivées du sang humain tels que visées à la Directive Européenne 93/42/CEE.  
*Do not contain substances produced from human blood as directed in the European Directive 93/42/CEE.*
- ✓ Satisfont aux dispositions du livre II du code de la santé publique.  
*They satisfy the arrangements of the public health book II.*
- ☞ De ce fait, je m'estime remplir les obligations des exigences essentielles selon l'Annexe I.  
*Consequently, I consider myself to meet all the essential requirements obligations according to Appendix I.*

Chaumont, le 25/05/2021

Le Directeur d'établissement,  
*Managing Director*  
Didier Deblaize

LANDANGER 0

# LANDANGER

Déclaration de conformité  
*Declaration of conformity*

Déclaration de conformité  
*Declaration of conformity*



Nous, Société / *We, Company* **LANDANGER**

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Enregistré sous le numéro / *Registered under the number*: **SRN: FR-MF-000000468**

EN TANT QUE FABRICANT, DÉCLARONS SOUS NOTRE PROPRE RESPONSABILITE QUE LES  
DISPOSITIFS MÉDICAUX :

*AS MANUFACTURER, HEREBY DECLARE UNDER OUR SOLE RESPONSIBILITY THAT THE MEDICAL DEVICES:*

**Gamme : Instrumentation générale**

***Range :General instrumentation***

***Voir liste jointe de 278 pages en annexe du 25/05/2021 / See 278 pages enclosed list from the 25/05/2021.***

- ✓ Sont conformes à la Directive Européenne 93/42/CEE, et ses amendements, sur les dispositifs médicaux et appartiennent à la classe **I**.  
*Are complying with the European Directive 93/42/CEE, and its amendments, concerning medical devices I.*
  - ✓ Ne sont pas fabriqués à partir de tissus d'origine animale tels que visés dans le règlement européen 722/2012.  
*Are not made from animal tissues as directed in the European Regulation 722/2012.*
  - ✓ Ne contiennent pas de substances dérivées du sang humain tels que visées à la Directive Européenne 93/42/CEE.  
*Do not contain substances produced from human blood as directed in the European Directive 93/42/CEE.*
  - ✓ Satisfont aux dispositions du livre II du code de la santé publique.  
*They satisfy the arrangements of the public health book II.*
- ☞ De ce fait, je m'estime remplir les obligations des exigences essentielles selon l'Annexe I.  
*Consequently, I consider myself to meet all the essential requirements obligations according to Appendix I.*

Chaumont, le 25/05/2021

Le Directeur d'établissement,  
*Managing Director*  
Didier Deblaize

# LANDANGER

# CERTIFICAT DE CONFORMITE

*Certificate of conformity*

## 1 / ACIERS INOXYDABLES MARTENSITIQUE

*Martensitic stainless steel*

### 1.1, Pour les instruments à forte pression et ressort.

*For instruments with strong spring effect*

On utilise généralement du

*We usually use*

#### **X10Cr13 / 1.4006**

X: Acier inoxydable fortement allié  
10 : 0.10 % de carbone  
Cr: chrome  
13 : 13 % de chrome

#### *X10Cr13 / 1.4006*

*X: Stainless steel strongly allied  
10 : 0.10 % carbon rate  
Cr: chromium  
13 : 13 % chromium rate*

#### **X20Cr13 / 1.4021**

X: Acier inoxydable fortement allié  
20 : 0.20 % de carbone  
Cr: chrome  
13 : 13 % de chrome

#### *X20Cr13 / 1.4021*

*X: Stainless steel strongly allied  
20 : 0.20 % carbon rate  
Cr: chromium  
13 : 13 % chromium rate*

#### **X30Cr13 / 1.4028**

X: Acier inoxydable fortement allié  
30 : 0.30 % de carbone  
Cr: chrome  
13 : 13 % de chrome

#### *X30Cr13 / 1.4028*

*X: Stainless steel strongly allied  
30 : 0.30 % carbon rate  
Cr: chromium  
13 : 13 % chromium rate*

Ces aciers permettent d'obtenir une gamme étendue de caractéristiques mécaniques et une bonne résistance à la corrosion :

*These steels allows a wide range of mechanical characteristics and a good rust resistance :*

Trempe à 1015° C.....HRC : 48  
Revenu à 270° C .....HRC : 46

*Quenching at 1015° C.....HRC : 48  
Tempering at 270° C .....HRC : 46*

### 1.2, Pour les instruments coupants :

*For Cutting Instruments*

- Le pourcentage de carbone est plus élevé, ce qui entraîne une dureté plus élevée, nécessaire à la coupe.

*- Percentage of carbon is higher, conducting to superior hardness needed to cut.*

- On utilise du

*- We use*

#### **X38CrMoV15 / 1.4117**

X: Acier inoxydable fortement allié  
38 : 0.38 % de carbone  
Cr: chrome  
Mo: Molybdène  
V: Vanadium  
15 : 15 % de chrome

#### *X38CrMoV15 / 1.4117*

*X: Stainless steel strongly allied  
38 : 0.38 % carbon rate  
Cr: chromium  
Mo: Molybdenum  
V: Vanadium  
15 : 15 % chromium rate*

**X39Cr13 / 1.4031**

X: Acier inoxydable fortement allié  
 39 : 0.39 % de carbone  
 Cr: chrome  
 13 : 13 % de chrome

**X40CrMoVN16-2 / 1.4123**

X: Acier inoxydable fortement allié  
 40 : 0.40 % de carbone  
 Mo: Molybdène  
 V: Vanadium  
 16 % de chrome  
 2% de Molybdène  
 < 1,5% de Vanadium

**X46Cr13 / 1.4034**

X: Acier inoxydable fortement allié  
 46 : 0.46 % de carbone  
 Cr: chrome  
 13 : 13 % de chrome

Trempe à 1050° C.....HRC : 53  
 Revenu à 280° C.....HRC : 50

Le taux de carbone étant plus élevé que pour les instruments à pression, pour maintenir l'inoxidabilité, le taux de chrome a soit été augmenté, soit on y a ajouté du Molybdène.

**X39Cr13 / 1.4031**

X: *Stainless steel strongly allied*  
 39 : *0.39 % carbon rate*  
 Cr: *chromium*  
 13 : *13 % chromium rate*

**X40CrMoVn16-2 / 1.4123**

X: *Stainless steel strongly allied*  
 40 : *0.40 % carbon rate*  
 Mo: *Molybdenum*  
 V: *Vanadium*  
 16 % *chromium rate*  
 2% *Molybdenum rate*  
 < 1,5% *Vanadium rate*

**X46Cr13 / 1.4034**

X: *Stainless steel strongly allied*  
 46 : *0.46 % carbon rate*  
 Cr: *chromium*  
 13 : *13 % chromium rate*

*Quenching at 1050° C.....HRC : 53*  
*Tempering at 280° C.....HRC : 50*

*Carbon rate being higher then for punching instruments to maintain proper corrosion resistance, chromium rate is higher, or Molybdenum added.*

## **2/ ACIERS INOXYDABLES AUSTENITIQUES** *Austenitic stainless steel*

**Pour les instruments à fonction statique.***For Static instruments*

Les nuances utilisées sont

**X2 CrNi 19-11 / 1.4306** ou 304L (norme USA)

Soit X : Acier inoxydable fortement allié  
 0.02 % de carbone  
 C : Chrome  
 N : Nickel  
 19 : 19 % de Chrome  
 11 : 11 % de Nickel

**X5 CrNi 18-10 / 1.4301** ou 304 (norme USA)

Soit X : Acier inoxydable fortement allié  
 0.05 % de carbone  
 C : Chrome  
 N : Nickel  
 18 : 18 % de Chrome  
 10 : 10 % de Nickel

*Material Grade used it :*

**X2 CrNi 19-11** or 304L (US norm)

*with X : Stainless steel strongly allied*  
*0.02 % carbone rate*  
 C : *Chromium*  
 N : *Nickel*  
 19 : *19 % Chromium rate*  
 11 : *11 % Nickel rate*

**X5 CrNi 18-10** or 304 (US norm)

*with X : Stainless steel strongly allied*  
*0.05 % carbone rate*  
 C : *Chromium*  
 N : *Nickel*  
 18 : *18 % Chromium rate*  
 10 : *10 % Nickel rate*

### 3/ TUNGSTENE *TUNGSTEN*

Les nuances utilisées sont

#### **WC-CO – K15/K20**

Soit W : Tungstène  
45 % de Tungstène  
C : Carbone  
45 % de Carbone  
Co : Cobalt  
10 % de Cobalt

*Material Grade used it :*

#### **WC-CO – K15/K20**

*with* W : Tungsten  
45 % Tungsten rate  
C : Carbone  
45 % Carbon rate  
Co : Cobalt  
10 % Cobalt rate

### 4/ TITANE *TITANIUM*

Les nuances utilisées sont

#### **TA6V / Ti – 6Al – 4V**

Soit Ti: Titane  
< 0.08 % de carbone  
6 : 6% d'aluminium  
Al : Aluminium  
4: 4 % de Vanadium  
V : Vanadium

*Material Grade used it :*

#### **TA6V / Ti – 6Al – 4V**

*with* Ti: Titanium  
< 0.08 % carbon rate  
6 : 6% aluminium rate  
Al : Aluminium  
4: 4 % Vanadium rate  
V : Vanadium

Chaumont le 27 JANVIER 2017

A GUILLAUMOT  
Quality Manager

