



Aperam Stainless Services & Solutions Luxembourg S.A.

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**TEST REPORT
RELEVÉ DE CONTRÔLE
WERKSZEUGNIS**

According to / Selon / Nachdem
EN 10204

BL: 0048103 - 11

Date: 03/12/2014

| | |
|---|---|
| Manufact. / Product. / Herstell. APERAM STAINLESS EUROPE | Item / Article / Produkt (EN 10058) FLACHSTAHL 4404 1D 10,0 X 70,0 X 6000,0 |
| Supplier Lot / Lot Fourn. / Band Nr 44002625 | Customer / Client / Kunde VOSS EDELSTAHLHANDEL GMBH ET CO KG |
| Heat N° / N° de coulée / Schmelz Nr 440026 | Order / Commande / Order 411030475 - 20 |
| Steel Designation / Désignation Acier / Stahlbezeichnung EN 10028-7 WNR 1 4404/1 4401 EN 10088-2 WNR 1 4404/1 4401 ASTM A 240(M) TYPE 316L/316 ASME SA 240 TYPE 316L/316 | Reference / Référence / Referenz 1/2126817 |

AD 2000 W2 -- AD 2000 W10 -- PED 97/23/EC

Mill Certificate / N° de Certificats / Prüfzeugnis Nr
14K0052544 14K0052544-CE

Chemical Analysis / Analyse Chimique / Chemische Zusammensetzung

| | C | Si | Mn | Ni | Cr | Mo | Ti | N | S | P | Cu | Al | | | | |
|--|-------|-----|------|-------|-------|------|----|------|-------|-------|----|----|--|--|--|--|
| Cast Analysis Analyse Coulée Analyse | 0,024 | 0,4 | 1,34 | 10,04 | 16,56 | 2,03 | | 0,06 | 0,002 | 0,034 | | | | | | |

Mechanical Properties / Propriétés Mécaniques / Mechanische Werte EN 10002-1

| | Yield strength Limite D'élasticité Dehngrenze | | Tensile strength Résistance à la traction Zugfestigkeit | | Elongation after fracture (A) Allongement après rupture Bruchdehnung | | Hardness Dureté Härte | |
|--|---|-------|---|-----|--|---|-----------------------------|-----|
| | MPA | MPA | MPA | MPA | % | % | HRB | DDQ |
| | Rp 0.2 % | Rp 1% | Rm | A5 | 50 mm | | | |
| | 345 | 379 | 601 | | 54 | | 86,1 | 57 |

Material identification / Identification Matière / Identifizierung Sachgebiet

| Lot Nr N° Lot Los Nr | Weight Poids Gewicht | Lot Nr N° Lot Los Nr | Weight Poids Gewicht | Lot Nr N° Lot Los Nr | Weight Poids Gewicht | Lot Nr N° Lot Los Nr | Weight Poids Gewicht |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | Kg | | Kg | | Kg | | Kg |
| 0813497 | 521 | | | | | | |



Number of lots / Nombre de lots / Bunde Anzahl : 1
Total weight / Poids Total / Gesamt Gewicht [Kg] : 521




The Inspector
Le Responsable
Der Werksachverstaendige



A. Wiblet



0001222371

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|---|--|---|-----------------------------|---|-----------------------------|---|---------------------------|---|-----------------------|--|-------------------|--|-------------------|--|-------------------|--|--|--|
|  | | MILL CERTIFICATE BS EN 10204/3.1 CERTIFICAT DE RECEPTION NF EN 10204/3.1 ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1 | | | | | N-Nr-N 14K0052544-01 V01 | | | | | | | | | | | | | | | | |
| Correspondent address Aperam Genk Swinnenwijerweg 5, Poort Genk 7523 3600 Genk, Belgium Tel +32 (0)89 30 21 11 | | Certified acc PED 97/23/EC Annex I § 4.3 by Certification Body 0036 of TUV SUD Industrie Service GmbH with cert No 314/2007/MJC Renounced of counter signature agreed by TUV SUD (9/5/2007) Approved acc AD 2000-Merkblatt W0TRD 100 by TUV SUD Industrie Service GmbH Confirmation letter from TUVSUD Industrie Service GmbH of 07/05/2010 about the uniformity of coils acc AD2000 W2 §4.1.1 | | | | | | | | | | | | | | | | | | | | | |
| Tech Req AD 2000 W2 - AD 2000 W10 - EN 13445-2 | | | | | | | | | | | | | | | | | | | | | | | |
| Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer 80232484/01-20699/713/01 | | Surveyor's mark Cachet de l'expert, Stempel des Werkssachverstaendigen  | | Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfänger APERAM SS&S LUXEMBOURG 15 AVENUE DE L'EUROPE 4801 RODANGE LUXEMBOURG | | | Purchaser's order number N° de commande client Kundenbestellnummer 410007865 | | | | | | | | | | | | | | | | |
| Product - Produit - Erzeugnis COIL, HOT ROLLED ANNEALED AND PICKLED UNTRIMMED COIL, LAMINE A CHAUD, RECUIT-DECAPE, BORDS NON REFENDUS COIL WARMGEWALZT GEGLUEHT UND GEBEIZT, UNBESAEUMT | | | | | Customer article number N° article client Artikelnummer des Kunden ART015016 | | | | | | | | | | | | | | | | | | |
| Steel designation Designation de l'acier Stahlbezeichnung EN 10028-7-2008 1 4404 / 1 4401 EN 10088-2-2005 1 4404 / 1 4401 ASTM A 240-2014 TYPE 316L / 316 ASME SA 240-2013 TYPE 316L / 316 EN 10088-4-2009 1 4404 / 1 4401 | | Finish Presentation Ausfuehrung ID ID NO I NO I ID | | Steelmaking process Mode d'elaboration de l'acier - Stahlherstellungverfahren Prod proces Electric arc furnace - VOD/AOD - Continuous casting Proc fabric Four à arc - VOD/AOD - Coulée continue Fertigungsablauf Elektro-Ofen - VOD/AOD - Stranggussanlage | | | Product delivery condition Etat de livraison du produit - Lieferzustand Solution treated: Hypertrempe 1050 °C Lösungsgegl+abgeschreckt Forced air-water/air forcé-eau Gebläse Luft-Wasser | | | | | | | | | | | | | | | | |
| NACE MR 0175 / ISO 15156-1 / ISO 15156-3 - NACE MR 0103 // DIMENSION AND SHAPE TOLERANCES ACC TO EN ISO 9444-2 // FREE OF RADIOACTIVE CONTAMINATION // CORROSION TEST ASTM A262-E OK | | | | | | | | | | | | | | | | | | | | | | | |
| Identification of the product Identification du produit - Identifizierung des Erzeugnisses MELTED IN BELGIUM, MADE IN BELGIUM | | Dimensions Dimensions - Abmessungen Thickness Epaisseur - Staerke 10 00 mm | | | Width Largeur - Breite 1250 00 mm | | Length Longueur - Laenge | | Number of pieces Nb de pieces - Stueckzahl 1 | | Net weight Poids net - netto Gewicht 24280 KG | | | | | | | | | | | | |
| CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG | | | | | | | | | | | | | | | | | | | | | | | |
| Required - Exigé %min Anforderung %maxi | | C 0 030 | | Si 0 75 | | Mn 2 00 | | Ni 10 00 13 00 | | Cr 16 50 18 00 | | Mo 2 00 2 50 | | Ti 0 100 | | N 0 015 | | S 0 045 | | P 0 034 | | Co 0 283 | |
| Cast Analysis Analyse coulée Analyse Schmelze | | 0 024 C71 | | 0 40 C72 | | 1 34 C73 | | 10 04 C74 | | 16 56 C75 | | 2 03 C76 | | 0 060 C77 | | 0 002 C78 | | 0 034 C79 | | 0 283 C80 | | C81 C82 C83 C84 C85 C86 | |
| Positive material identification carried out OK Tests de verification de la conformité de la nuance fournie OK Verwechslungsprüfung wurde durchgeführt OK | | | | | | | | | | | | | | | | | | | | | | | |
| Location (1) | | MECHANICAL PROPERTIES - PROPRIETES MECANQUES - MECHANISCHE WERTE EN ISO 6892-1 B | | | | | | | | | | | | | | | | | | | | | |
| Direction (2) | | Yield or proof strength Limite d'élasticité Dehngrenze MPa | | | | | Tensile Strength Résistance à la traction Zugfestigkeit MPa | | Elongation after fracture Allongement apres rupt Bruchdehnung % | | Hardness Dureté Flaerte | | Yield or proof strength Limite d'élasticité Dehngrenze MPa | | Tensile str. Résist MPa Zugfestigkeit | | Elongation % Allongement Bruchdehnung | | | | | | |
| Required Exigé Anforderung | | Rp0.2% 220 | | Rp1% 260 | | Rm 530 680 | | A5 40 | | 50mm 40 | | HRB C30 95 | | Rp0.2% Rp1% | | Rm A5 | | | | | | | |
| Obtained Obtenu Ergebnisse | | 345 | | 379 | | 601 | | 51 | | 54 | | 86 | | | | | | | | | | | |
| Impact strength test Essai de résilience Kerbschlagzaehigkeitstest | | C40 (t°C) | | C44 | | Corrosion test Test de corrosion Korrosionstest | | E0 2(T)/R(T) % | | 57 | | C50 | | C51 | | C52 | | C53 | | C54 | | C55 | |
| Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1 Front - Debut - Anfang 2 Back - Fin - Ende 3 Middle - Milieu - Mitte | | The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die Lieferung entspricht den Bestellbedingungen | | | | | Packing list Avis d'expédition Lieferscheinnummer 2014051386-20699 | | Organisation inspection Organisme et/ou service contrôle Ueberwachungsabteilung Quality Department 25/11/2014 | | The inspector Le responsable D Raemaekers | | | | | | | | | | | | |
| Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T Transverse - Travers - Quer L Longitudinal - Long - Laengs | | Marking, inspection and measurement : without objection Contrôle de marquage, d'aspect et de dimensions satisfaisants Prüfung der Stempelung, des Oberflächenaspekts und der Abmessungen ohne Beanstandung | | | | | Internal cleanliness A B C D | | | | | | | | | | | | | | | | |

|  | | MILL CERTIFICATE BS EN 10204/3.1 CERTIFICAT DE RECEPTION NF EN 10204/3.1 ABNAHMEPRUEFZEUGNIS DIN EN 10204/3.1 | | | | | | | | | | N-Nr-N 14K0052544-CE V01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------|---|------|---|----------------|--|----|--|-------|--|-------|--|--|---|---|----|----|----|----|----|----|---|---|---|----|--|--|--|--|--|-------|------|------|----------------|----------------|--------------|--|-------|-------|-------|--|--|--|--|--|--|-------|------|------|-------|-------|------|--|-------|-------|-------|-------|--|--|--|--|
| Correspondent address Aperam Genk Swinnenwijerweg 5, Poort Genk 7523 3600 Genk, Belgium Tel +32 (0)89 30 21 11 | | Factory Production Control certified by TUV SUD Industrie Service GmbH with certificate nr 0036-CPD-43-2011 In compliance with the Construction Product Directive nr 89/106/EEC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer 80232484/01-20699/713/01 | | Surveyor's mark Cachet de l'expert Stempel des Werkssachverständigen  | | Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfänger APERAM SS&S LUXEMBOURG 15 AVENUE DE L'EUROPE 4801 RODANGE LUXEMBOURG | | | | Purchaser's order number N° de commande client Kundenbestellnummer 410007865 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product - Produit - Erzeugnis COIL HOT ROLLED ANNEALED AND PICKLED UNTRIMMED COIL, LAMINE A CHAUD, RECUIT+DECAPE,BORDS NON REFFENDUS COIL WARMGEWALZT GEGLUHT UND GEBEIZT, UNBESAEUMT | | Finish Presentation Ausführung ID | | Steelmaking process Mode d'élaboration de l'acier - Stahlherstellungsverfahren Prod proces Electric arc furnace - VOD/AOD - Continuous casting Proc fabric Four à arc - VOD/AOD - Coulée continue Fertigungsablauf Elektro-Ofen - VOD/AOD - Stranggussanlage | | | | Customer article number N° article client Artikelnummer des Kunden ART015016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Steel designation Designation de l'acier Stahlbezeichnung EN 10088-4-2009 1 4404/1 4401 | | | | Any supplementary requirements Prescriptions supplémentaires - Zusätzliche Anforderungen | | | | Product delivery condition Etat de livraison du produit - Lieferzustand Solution treated: Hypertrempe 1050 °C Lösungsgegl./abgeschreckt Forced air-water/air forcé-eau Gebläse Luft-Wasser | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Identification of the product Identification du produit - Identifizierung des Erzeugnisses MELTED IN BELGIUM, MADE IN BELGIUM | | | | | | | | | | | | Number of pieces Nb de pieces - Stueckzahl 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coil n. N Bobine - Band Nr 44002625 | | Heat n. N Coulée - Schmelz Nr 440026 | | Thickness Epaisseur - Stärke 10 00 mm | | Width Largeur - Breite 1250 00 mm | | Length Longueur - Länge | | Net weight Poids net - netto Gewicht 24280 KG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHEMICAL ANALYSIS - ANALYSE CHIMIQUE - CHEMISCHE ZUSAMMENSETZUNG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th></th> <th>C</th> <th>Si</th> <th>Mn</th> <th>Ni</th> <th>Cr</th> <th>Mo</th> <th>Ti</th> <th>N</th> <th>S</th> <th>P</th> <th>Co</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Required - Exigé %min Anforderung %maxi</td> <td>0 030</td> <td>0 75</td> <td>2 00</td> <td>10 00 13 00</td> <td>16 50 18 00</td> <td>2 00 2 50</td> <td></td> <td>0 100</td> <td>0 015</td> <td>0 045</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cast Analysis Analyse coulée Analyse Schmelze</td> <td>0 024</td> <td>0 40</td> <td>1 34</td> <td>10 04</td> <td>16 56</td> <td>2 03</td> <td></td> <td>0 060</td> <td>0 002</td> <td>0 034</td> <td>0 283</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | | | | | | | | | | C | Si | Mn | Ni | Cr | Mo | Ti | N | S | P | Co | | | | | Required - Exigé %min Anforderung %maxi | 0 030 | 0 75 | 2 00 | 10 00 13 00 | 16 50 18 00 | 2 00 2 50 | | 0 100 | 0 015 | 0 045 | | | | | | Cast Analysis Analyse coulée Analyse Schmelze | 0 024 | 0 40 | 1 34 | 10 04 | 16 56 | 2 03 | | 0 060 | 0 002 | 0 034 | 0 283 | | | | |
| | C | Si | Mn | Ni | Cr | Mo | Ti | N | S | P | Co | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Required - Exigé %min Anforderung %maxi | 0 030 | 0 75 | 2 00 | 10 00 13 00 | 16 50 18 00 | 2 00 2 50 | | 0 100 | 0 015 | 0 045 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cast Analysis Analyse coulée Analyse Schmelze | 0 024 | 0 40 | 1 34 | 10 04 | 16 56 | 2 03 | | 0 060 | 0 002 | 0 034 | 0 283 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Positive material identification carried out OK Tests de vérification de la conformité de la nuance fournie OK Verwechslungsprüfung wurde durchgeführt OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Location (1) MECHANICAL PROPERTIES - PROPRIETES MECANQUES - MECHANISCHE WERTE EN ISO 6892-1 B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Room temperature - Température ambiante - Raumtemperatur Test temperature (°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Direction (2) Direction 1 T 2 T | | Yield or proof strength Limite d'élasticité Dehngrenze MPa Rp0.2% 220 Rp1% 260 Obtained Obtenu Ergebnisse 345 379 | | Tensile Strength Résistance à la traction Zugfestigkeit MPa Rm 530 680 601 | | Elongation after fracture Allongement après rupt Bruchdehnung % A5 40 40 51 54 | | Hardness Dureté Härte HRB C30 95 86 84 | | Yield or proof strength Limite d'élasticité Dehngrenze MPa Rp0.2% Rp1% Rm | | Tensile str. Résist MPa Zugfestigkeit Rm | | Elongation % Allongement Bruchdehnung A5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Impact strength test Essai de résilience Kerbschlagzähigkeitstest | | | | Corrosion test Test de corrosion Korrosionstest | | | | EO 2(T)/R(T) % 57 | | | | | | Sample Thickness 9 85mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EN ISO 3651/2 - A:OK | | | | D51 | | C50 C51 C52 C53 C54 C55 | | A B C D | | C57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Location of the sample (1) Emplacement de l'échantillon Lage des Probenabschnittes 1 Front - Debut - Anfang 2 Back - Fin - Ende 3 Middle - Milieu - Mitte | | | | The delivery is in accordance with the order La fourniture est conforme aux exigences de la commande Die Lieferung entspricht den Bestellbedingungen | | | | Packing list Avis d'expédition Lieferscheinnummer 2014051386-20699 | | Organisation inspection Organisme et/ou service contrôle Überwachungsabteilung Quality Department 25/11/2014 | | The inspector Le responsable Der Werkssachverständige  D Raemaekers | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Direction of the test pieces (2) Orientation des éprouvettes Probenrichtung T Transverse - Travers - Quer L Longitudinal - Long - Laengs | | | | Marking, inspection and measurement : without objection Contrôle de marquage d'aspect et de dimensions satisfaisants Prüfung der Stempelung, des Oberflächenaspekts und der Abmessungen ohne Beanstandung | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|--|--|--|---|--|
|  | Annex to certificate 14K0052544-01 V01 Annexe du CCPU Anlage Zum Zeugnis CE02 | | Certificate CCPU - Zeugnis 14K0052544-CE V01 CE05 | |
| | Certificate of Production Control Number Numéro du certificat de contrôle de la production Zeugnisnummer von Produktionskontrolle 0036-CPD-43-2011 CE03 | |  | |
| | Year 11 Année Jahr CE04 | | | |
| Correspondance address Adresse de correspondance - Adresse für briefwechsel Swinnenwijerweg 5, Poort Genk 7523 3600 Genk, Belgium CE01 | Purchaser and/or consignee Client et/ou destinataire Besteller und/oder Empfänger APERAM SS&S LUXEMBOURG 15 AVENUE DE L'EUROPE 4801 RODANGE LUXEMBOURG CE08 | | Purchaser's order number N° de commande client Kundenbestellnummer 410007865 CE09 | |
| Manufacturer's works order number N° de la commande usine productrice Werksauftragsnummer 80232484/01-20699/713/01 CE07 | | | Customer article number N° d'article client Artikelnummer des Kunden ART015016 CE10 | |
| Identification of the product Identification du produit - Identifizierung des Erzeugnisses | Dimensions Dimensions - Abmessungen | | | |
| Coil n° N° de bobine - Band Nr 44002625 CE11 | Thickness Epaisseur - Dicke 10 00 mm CE12 | Width Largeur - Breite 1250 00 mm CE13 | Length Longueur - Laenge CE14 | |
| Stainless steel / Acier inoxydable / Rostfreier Stahl CE15 | | | | |
| EN10088-4 CE16 | | | | |
| Intended uses building constructions or civil engineering Usages prévus construction immobilière ou génie civil Vorgesehene Verwendungen Hochbauten und Ingenieurbauwerke CE17 | | | | |
| Declaration of performance Déclaration des performances Leistungserklärung DoP available on website Aperam www.aperam.com/europe/news-publications/documentation/certifications/approvals DOP N° GNK 08 01/GNK 10 01 CE18 | | | | |
| Steel Acier 1 4404/1 4401 Werkstoff CE19 | | | | |
| Hot rolled Laménées a chaud Warmgewalzt CE20 | | | | |
| Coil / bobine / Band CE21 | | | | |
| Elongation / Allongement / Bruchdehnung Tensile strength / Resistance a la traction / Zugfestigkeit Yield strength / Limite d'élasticité / Dehngrenze Impact strength / Resistance au choc / Kerbschlagzähigkeit Weldability / Aptitude au soudage / Schweisseignung Durability / Durabilité / Dauerhaftigkeit Characteristics expressed as indicated in the above mentioned DOP Tolerances on dimension and shape / Tolérances sur les dimensions et sur forme / Grenzabmasse und Formtoleranzen EN ISO 9444-2 CE22 | | | | |
| Regulated substance no performance determined Substance réglementée aucune performance déterminée Regulierter Stoff keine Leistung festgestellt CE23 | | | | |