**鞍钢冷轧1#线L3生产控制系统**

通信管理子系统

**Level 3/酸轧联合机组通信电文设计**

**2015年7月10日**

**2018年9月27日(重新校验)**

**鞍信托日**

## HISTORY

|  |  |  |  |
| --- | --- | --- | --- |
| revision | Date | Change Sections | Reason |
| 00 | Oct 2004-9-27 |  | Initial issue |
| 01 | Nov 2004-11-12 | Little update | Check up some questions |
| 02 | Dec 2004-12-16 | ADD Production Engineering Data | Reference ERP’request |
| 03 | Jan 2005-2-2 | Update P202 | About exit coil ID |
| 04 | Sep 2005-09-23 | Update P204 | Add scrap\_length in entry and exit |
| 05 | May 2006-5-18 | Update some tel | Modify some field |
| 07 | 2015-7-10 |  |  |
|  |  |  |  |
|  |  |  |  |

## L3/酸轧联合机组通信接口一览

**1.1电文头：**

**All telegram between L2 and L3 are preceded by following standard header:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Format** | **description** | **中 文** |
| **Tele\_id** | **C4** | 1. **Normal send telegrams**   **1st char :Line-code:’P’=PLTCM**  **2nd char:Sender:’2’=Level 2;’3’=Level 3**  **3rd and 4th char:telegram number(nn)**   1. **Acknowledge telegram from Level 2 to Level 3:**   **1st char :Line-code:’P’=PLTCM**  **2nd and 3rd char: telegram number of received telegram(nn)**  **4th char: Sender:’A’**  **Example:P301->P01A**   1. **Acknowledge telegram from Level 3 to Level 2:**   **1st char :Line-code:’P’=PLTCM**  **2nd char: Sender:’A’**  **3rd and4th char: telegram number of received telegram(nn)**  **Example:P201->PA01** | P:表示为产线号，表示PLTCM与L3间的电文.  P2nn: 表示从L2发送到L3的电文. PnnA应答P3nn.  P3nn: 表示从L3发送到L2的电文. PAnn应答P2nn.  注:本章节所述的L2为酸轧联合机组 |

**1.2通讯方式：采用基于TCP/IP协议的SOCKET编程，通讯规约见附表。**

**1.3数据格式Data Format：**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | TYPE | dESCRIPTION | FORMAT | EXAMPLE |
| 1 | alphanumeric | Left oriented,blank padded | C10 | C10 “COIL1234 ” |
| 2 | Numeric | Right oriented with leading zeros.  If no value is available,field is filled with blanks. | Nn | N5 “00123”  “ ”(no value) |

**1.4钢卷号：**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| A | | | | | | | | E | | | | | |
| 基本卷号 | | | | | | | | 分卷号 | | | | | |

注：9th ：酸轧联合机组分卷号

断卷 第一卷 A-I，第二卷 J-R，第三卷 S-Z

Example:

|  |  |  |
| --- | --- | --- |
| Entry Coil\_ID | Product Coil | Remark |
| XXXXXXXX000000 | XXXXXXXX000000 | 1:1 production |
| XXXXXXXX000000 | XXXXXXXX100000  XXXXXXXX200000  XXXXXXXX300000 | 1:n production |

Level 2 generates coil \_ids for rejected coils and product coils based on the the coil\_id Division code

**1.5电文一览表**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 序号 | Tele.ID | 电 文 名 称 | Telegram | From | To | 备注 |
|  | P201 | 命令顺请求 |  | L2 | L3 |  |
|  | P301 | 命令顺下发 |  | L3 | L2 |  |
|  | P01A | 命令顺数据应答 |  | L2 | L3 |  |
|  | P202 | 钢卷数据请求 |  | L2 | L3 |  |
|  | PA02 | 钢卷请求无效 |  | L3 | L2 |  |
|  | P302 | 钢卷数据 |  | L3 | L2 |  |
|  | P02A | 钢卷数据应答 |  | L2 | L3 |  |
|  | P203 | 钢卷进入运输链 |  | L2 | L3 |  |
|  | PA03 | 钢卷进入运输链应答 |  | L3 | L2 |  |
|  | P204 | 生产实绩 |  | L2 | L3 |  |
|  | P214 | 生产工程数据 |  | L2 | L3 |  |
|  | PA04 | 生产实绩应答 |  | L2 | L3 |  |
|  | P205 | 停机实绩 |  | L2 | L3 |  |
|  | PA05 | 停机实绩应答 |  | L3 | L2 |  |
|  | P206 | 轧辊数据请求 |  | L2 | L3 |  |
|  | P306 | 轧辊数据 |  | L3 | L2 |  |
|  | P06A | 轧辊数据应答 |  | L2 | L3 |  |
|  | P207 | 换辊实绩 |  | L2 | L3 |  |
|  | PA07 | 换辊实绩确认 |  | L2 | L2 |  |
|  | P208 | 机组拒绝卷 |  | L2 | L3 |  |
|  | PA08 | 拒绝卷应答 |  | L3 | L2 |  |
|  | P209 | 钢卷封锁 |  | L2 | L3 | 【校】**已废弃** |
|  | PA09 | 钢卷封锁应答 |  | L3 | L2 | 【校】**已废弃** |
|  | P399 |  |  | L3 | L2 | 【校】**无数据** |

## 电文结构明细

### 2.1命令顺请求:P201

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **L2的生产计划将为空时，操作工主动申请** |  |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P201 |

### 命令顺下发:P301

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由P201电文触发或由直接L3画面在调整、删除命令顺时触发** | **P01A** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P301 |
|  | NUM\_COILS | 钢卷数 | N | 3 |  |  |  | =0 L2删除全部命令顺 > 0 按既定的命令顺协议处理 |
|  | COIL\_ID1 | 钢卷号 | C | 14 |  |  |  |  |
|  | COIL\_ID2 | 钢卷号 | C | 14 |  |  |  |  |
|  | …… |  |  |  |  |  |  |  |
|  | COIL\_ID80 | 钢卷号 | C | 14 |  |  |  |  |

### 命令顺数据应答:P01A

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由P301电文触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P01A |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK, #0 NOT OK |
|  | NUM\_COILS | 钢卷数 | N | 3 |  |  |  |  |
|  | COIL\_ID1 | 钢卷号 | C | 14 |  |  |  |  |
|  | COIL\_ID2 | 钢卷号 | C | 14 |  |  |  |  |
|  | …… |  |  |  |  |  |  |  |
|  | COIL\_ID80 | 钢卷号 | C | 14 |  |  |  |  |
|  | REASON | 拒绝原因 | C | 200 |  |  |  | 【校】该字段未在电文数据包中体现 |

说明：成功接收列出全部卷号，失败时只列出失败的卷号。

### 钢卷数据请求:P202

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **L2操作工主动申请或当L2命令顺中的某一卷数据丢失** | **PA02/P302** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P202 |
|  | COIL\_ID | 钢卷号 | C | 14 |  |  |  | coil ID of the coil to request |

### 钢卷请求无效:PA02

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由电文P202触发，所申请的钢卷数据不存在或钢卷号非法** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | PA02 |
|  | EN\_COIL\_ID | 钢卷号 | C | 14 |  |  |  | coil identification |

### 钢卷数据:P302

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由电文P02触发** | **P02A** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P302 |
|  | EN\_COIL\_ID | 钢卷号 | C | 14 |  |  |  |  |
|  | WEIGHT | 入口重量 | N | 5 | kg |  |  |  |
|  | DIAM\_INSIDE | 入口内径 | N | 4 | mm |  |  |  |
|  | DIAM\_OUTSIDE | 入口外径 | N | 4 | mm |  |  |  |
|  | TRIMMING | 切边 | N | 1 |  |  |  | 1=Y; 0=N |
|  | WIDTH\_EXIT | 出口宽度 | N | 4 | mm |  |  |  |
|  | WIDTH\_EXIT\_TRES\_P | 出口宽度最大值 | N | 4 | mm |  |  |  |
|  | WIDTH\_EXIT\_TRES\_M | 出口宽度最小值 | N | 4 | mm |  |  |  |
|  | THICK\_EXIT | 出口厚度 | N | 4 | mm10-3 |  |  |  |
|  | THICK \_EXIT\_TRES\_P | 出口厚度最大值 | N | 4 | mm10-3 |  |  |  |
|  | THICK\_EXIT\_TRES\_M | 出口厚度最小值 | N | 4 | mm10-3 |  |  |  |
|  | FLAT\_TRES | 目标平直度 | N | 2 | 1-Unit |  |  | 0 |
|  | DEG\_OF\_ELONGATION | 延伸率 | N | 3 | 0.01% |  |  | 冷轧酸轧工序作业指导 |
|  | STEEL\_GRADE | 钢牌号 | C | 15 |  |  |  |  |
|  | STEEL\_MARK | 出钢记号 | C | 15 |  |  |  |  |
|  | ALLOY\_COMPONENT\_AVAI | 合金成份有效标志 | N | 1 |  |  |  | Alloy components available(0=no, 1=yes) |
|  | CA\_AL | 铝 | N | 5 | E-4% |  |  | Aluminum |
|  | CA\_AS | 砷 | N | 5 | E-4% |  |  | Astat |
|  | CA\_B | 硼 | N | 5 | E-4% |  |  | Bor |
|  | CA\_C | 碳 | N | 5 | E-4% |  |  | Carbon |
|  | CA\_CA | 钙 | N | 5 | E-4% |  |  | Calcium |
|  | CA\_CR | 铬 | N | 5 | E-4% |  |  | Chromium |
|  | CA\_CU | 铜 | N | 5 | E-4% |  |  | Cupper |
|  | CA\_MN | 锰 | N | 5 | E-4% |  |  | Mangan |
|  | CA\_MO | 钼 | N | 5 | E-4% |  |  | Molybdan |
|  | CA\_N | 氮 | N | 5 | E-4% |  |  | Nitrium |
|  | CA\_NB | 铌 | N | 5 | E-4% |  |  | Nb |
|  | CA\_NI | 镍 | N | 5 | E-4% |  |  | Nicket |
|  | CA\_P | 磷 | N | 5 | E-4% |  |  | Phosphor |
|  | CA\_S | 硫 | N | 5 | E-4% |  |  | Suifur |
|  | CA\_SI | 硅 | N | 5 | E-4% |  |  | Silicium |
|  | CA\_SN | 锡 | N | 5 | E-4% |  |  | Zinn |
|  | CA\_TI | 钛 | N | 5 | E-4% |  |  | Titanium |
|  | CA\_V | 钒 | N | 5 | E-4% |  |  | Vanadium |
|  | CA\_X0 | 预留成分0 | N | 5 | E-4% |  |  | Not used |
|  | CA\_X1 | 预留成份1 | N | 5 | E-4% |  |  | Not used |
|  | CA\_X2 | 预留成份2 | N | 5 | E-4% |  |  | Not used |
|  | CA\_X3 | 预留成份3 | N | 5 | E-4% |  |  | Not used |
|  | CA\_X4 | 预留成份4 | N | 5 | E-4% |  |  | Not used |
|  | CA\_X5 | 预留成份5 | N | 5 | E-4% |  |  | Not used |
|  | CA\_X6 | 预留成份6 | N | 5 | E-4% |  |  | Not used |
|  | WIDTH\_ENTRY | 入口宽度 | N | 4 | mm |  |  | Coil width HSM(hot strip mill) |
|  | THICK\_ENTRY | 入口厚度 | N | 4 | mm\*10-3 |  |  |  |
|  | LENGTH | 入口长度 | N | 5 | m |  |  |  |
|  | CROWN | 平均凸度 | N | 4 | µm |  |  | 热轧给的 |
|  | ORIGIN\_CODE | 卷的供应商 | C | 3 |  |  |  | 热轧给的 |
|  | ID\_MATERIAL\_HARDNESS | 材料硬度 | N | 3 | N/mm2 |  |  | 热轧给的 |
|  | T\_HSM\_FM | 精轧的出口温度 | N | 4 | deg C |  |  | 热轧给的 |
|  | T\_HSM\_COILER | 热卷卷曲温度 | N | 4 | deg C |  |  | 热轧给的 |
|  | COILING\_MA | 冷却方式 | N | 1 |  |  |  | Cooling manner HSM 1=air; 2=water热轧给的 |
|  | PROG\_NUMBER | 生产计划号 | C | 8 |  |  |  | Number of planned production sequence.For information only. |
|  | NEXT\_PROCESS\_CODE | 下工序机组 | C | 4 |  |  |  | Only for information |
|  | PRODUCTION\_CONTRACT\_NO | 生产合同号 | C | 15 |  |  |  | Only for information |
|  | CUSTOMER\_THICKNESS | 订货厚度 | N | 4 | mm\*10-3 |  |  | Only for information |
|  | CUSTOMER\_WIDTH | 合同宽度 | N | 4 | mm |  |  | Only for information |
|  | CUSTOMER\_LENGTH | 合同长度 | N | 5 | m |  |  | Only for information |
|  | CUSTOMER\_STEEL\_GRADE | 合同钢牌号 | C | 15 |  |  |  | Only for information |
|  | MINUS\_TOLERANCE\_ROLLING | 负公差轧制标志 | N | 1 |  |  |  | 订货产品属性 |
|  | COMMENT | 特殊指示 | C | 60 |  |  |  |  |
|  | HEAT\_NO | 炉罐号 | C | 8 |  |  |  |  |
|  | PACKING\_TYPE | 包装类型 | C | 4 |  |  |  |  |
|  | PACKING\_WEIGHT | 包材重量 | N | 3 |  |  |  |  |
|  | SAMPLE\_flag | 样数标志 | c | 1 |  |  |  |  |
|  | SAMPLE\_HEAD | 头部取样数量 | N | 1 |  |  |  | 【校】Number of samples at mother coil head |
|  | SAMPLE\_MIDDLE | 中部取样数量 | N | 1 |  |  |  | 【校】Number of samples between product coils(if mother coil is divided in two or more product coils) |
|  | SAMPLE\_TAIL | 尾部取样数量 | N | 1 |  |  |  | 【校】Number of samples at mother coil tail |
|  | TEST\_NO | 试样号 | C | 10 |  |  |  |  |
|  | NO\_SPART | 分卷数量 | N | 1 |  |  |  | maxmimum 3三级参考 |
|  | MERGE\_MARK | 并卷标志 | N | 2 |  |  |  | 第一位为并卷区分，如1代表不并卷，2代表2并1，3代表3并2；第二位为并卷中卷的顺序号。 |
|  | HOW\_TO\_CUT | 如何分卷 | N | 1 |  |  |  | 1按重量 2按长度 3按外径 4焊缝前 5焊缝后  缺省为4 |
|  | CUTTNG\_WEIGHT | 分卷设定值 | N | 5 | kg/mm/m |  |  |  |
|  | CUTTING\_WEIGHT\_MAX | 分卷设定最大值 | N | 5 | kg |  |  |  |
|  | CUTTING\_WEIGHT\_MIN | 分卷设定最小值 | N | 5 | kg |  |  |  |
|  | SLEEVE | 套桶 | N | 2 |  |  |  | 0=没有套桶，1=使用610套桶 |

### 2.7钢卷数据应答:P02A

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由电文P302触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P02A |
|  | COIL\_ID | 钢卷号 | C | 14 |  |  |  |  |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK #0 NOT OK |
|  | REASON | 拒绝原因 | C | 200 |  |  |  |  |

### 2.8钢卷进入运输链:P203

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **L2主动上传** | **PA03** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P203 |
|  | COIL\_ID | 钢卷号 | C | 14 |  |  |  | coil id of the coil which goes to the entry converyor |
|  | SHIFT | 班次 | C | 1 |  |  |  | SHIFT(1,2,3-夜,白,中)  1=night shift; 2=morning shift; 3=evening shift |
|  | CREW | 班组 | C | 1 |  |  |  | GROUP(A,B,C,D-甲,乙,丙,丁) |

### 2.9钢卷进入运输链应答:PA03

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **处理电文P203后触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | PA03 |
|  | COIL\_ID | 钢卷号 | C | 14 |  |  |  | coil id |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK, #0 NOT OK |

### 2.10生产实绩:P204

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由L2主动上传** | **PA04** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P204 |
|  | ENTRY\_COIL\_ID | 入口卷号 | C | 14 |  |  |  | 入口卷第一卷 |
|  | EXIT\_COIL\_ID | 出口卷号 | C | 14 |  |  |  | Cold coil ID |
|  | LAST\_COIL\_FLAG | 生产结束标志 | N | 1 |  |  |  | 0=生产未结束，1=生产结束 |
|  | SHIFT | 班次 | C | 1 |  |  |  | Shift-number(1,2,3) |
|  | CREW | 班组 | C | 1 |  |  |  | Group(A,B,C,D) |
|  | EN\_WEIGHT\_L3 | 入口重量 | N | 5 | kg |  |  | 三级下发重量 |
|  | EN\_WEIGHT\_L2 | 入口重量 | N | 5 | kg |  |  | 二级实际测量重量 |
|  | EN\_DIAM\_INSIDE | 入口内径 | N | 4 | mm |  |  |  |
|  | EN\_DIAM\_OUTSIDE | 入口外径 | N | 4 | mm |  |  |  |
|  | EN\_WIDTH | 入口宽度 | N | 4 | mm |  |  |  |
|  | EN\_THICK | 入口厚度 | N | 4 | mm\*10-3 |  |  |  |
|  | EN\_LENGTH | 入口长度 | N | 5 | m |  |  | 二级实际测量长度 |
|  | EX\_WEIGHT | 出口重量 | N | 5 | kg |  |  |  |
|  | EX\_LENGTH | 出口长度 | N | 5 | m |  |  |  |
|  | EX\_DIAM\_INTERNAL | 出口内径 | N | 4 | mm |  |  |  |
|  | EX\_DIAM\_EXTERNAL | 出口外径 | N | 4 | mm |  |  |  |
|  | EX\_WIDTH | 出口宽度 | N | 4 | mm |  |  | Exit width |
|  | EX\_THICK | 出口厚度 | N | 4 |  |  |  |  |
|  | STEEL\_GRADE | 钢牌号 | C | 15 |  |  |  |  |
|  | STEEL\_MARK | 出钢记号 | C | 15 |  |  |  | Only for information |
|  | START\_TIME | 生产开始时间 | C | 14 |  |  |  | YYYYMMDDHHMISS end time of previous product coil |
|  | END\_TIME | 生产结束时间 | C | 14 |  |  |  | YYYYMMDDHHMISS when product coil was cut |
|  | DURATION | 生产运行时间 | N | 5 | sec |  |  | Net production time  DURATION=END\_TIME-START\_TIME-LINE\_STOPS between START\_TIME and END\_TIME |
|  | WELDPOS1 | 焊缝位置1 | N | 5 | m |  |  |  |
|  | WELDPOS2 | 焊缝位置2 | N | 5 | m |  |  |  |
|  | NEXT\_PROCESS\_CODE | 下工序代码 | C | 4 |  |  |  |  |
|  | PROG\_NUMBER | 生产计划号 | C | 8 |  |  |  | Number of planned production sequence.For information only. |
|  | PRODUCTION\_CONTRACT\_NO | 生产合同号 | C | 15 |  |  |  | Only for information |
|  | CUSTOMER\_THICKNESS | 订货厚度 | N | 4 | mm\*10-3 |  |  | Only for information |
|  | CUSTOMER\_WIDTH | 合同宽度 | N | 4 | mm |  |  | Only for information |
|  | CUSTOMER\_LENGTH | 合同长度 | N | 5 | m |  |  | Only for information |
|  | CUSTOMER\_STEEL\_GRADE | 合同钢牌号 | C | 15 |  |  |  | Only for information |
|  | SCRAP\_LENGTH\_ENTRY\_HEAD | 入口板头废品剪掉长度 | N | 3 | m |  |  | Total head scrap cut in entry section  For first product coil only |
|  | SCRAP\_LENGTH\_ENTRY\_TAIL | 入口板尾废品剪掉长度 | N | 3 | m |  |  | Total tail scrap cut in entry section  For last product coil only |
|  | SLEEVE | 套桶 | N | 2 |  |  |  | 0=没有套桶，1=使用610套桶 |
|  | NO\_STRIP | 并卷数 | N | 1 |  |  |  | No. of strips in the exit coil |
| [STRIP] | | | | | | | | |
|  | STRIP\_ID | 入口冷卷号 | C | 14 |  |  |  |  |
|  | MINUS\_TOLERANCE\_ROLLING | 负公差轧制标志 | N | 1 |  |  |  | 0 means minus tolerance rolling |
|  | PICKLING\_BEGIN | 酸洗开始时间 | C | 14 |  |  |  | YYYYMMDDHHMISS pickling begin |
|  | PICKLING\_END | 酸洗结束时间 | C | 14 |  |  |  | YYYYMMDDHHMISS pickling end |
|  | PICKLING\_BATH\_TEMP1 | 酸洗槽温度1 | N | 4 | Deg C |  |  | Temperature from Pickling Bath 1 |
|  | PICKLING\_BATH\_TEMP2 | 酸洗槽温度2 | N | 4 | Deg C |  |  | Temperature from Pickling Bath 2 |
|  | PICKLING\_BATH\_TEMP3 | 酸洗槽温度3 | N | 4 | Deg C |  |  | Temperature from Pickling Bath 3 |
|  | ACID\_CON | 酸浓度 | N | 4 | 0.01% |  |  | Acid Concentration |
|  | IRON\_CON | 铁浓度 | N | 4 | 0.01% |  |  | Fe Concentration |
|  | AVG\_SPEED\_PCL | 酸洗平均速度 | N | 5 | m/min |  |  | Average Pickling Speed |
|  | MIN\_SPEED\_PCL | 酸洗最小速度 | N | 5 | m/min |  |  | Maximum Pickling Speed |
|  | MAX\_SPEED\_PCL | 酸洗最大速度 | N | 5 | m/min |  |  | Maximum Pickling Speed |
|  | ROLLING\_BEGIN | 轧制开始时间 | C | 14 |  |  |  | YYYYMMDDHHMISS rolling begin |
|  | ROLLING\_END | 轧制结束时间 | C | 14 |  |  |  | YYYYMMDDHHMISS rolling end |
|  | LENGTH | 长度 | N | 5 | m |  |  | Strip length(measured value) |
|  | THICK\_EX | 出口厚度 | N | 4 | mm |  |  | Thickness exit |
|  | THICK\_SETP | 出口设定厚度 | N | 4 | mm |  |  | Thickness setpoint |
|  | THICK\_MIN | 出口最小厚度 | N | 4 | mm |  |  | Thickness min |
|  | THICK\_MAX | 出口最大厚度 | N | 4 | mm |  |  | Thickness max |
|  | THICK\_LMAX | 设定最大厚度 | N | 4 | mm |  |  | Thickness limit max |
|  | THICK\_LMIN | 设定最小厚度 | N | 4 | mm |  |  | Thickness limit min |
|  | TCM\_SPEED | 轧制速度 | N | 5 | m/min |  |  | TCM speed(average) |
|  | TCM\_SPEED\_MAX | 轧制最大速度 | N | 5 | m/min |  |  | TCM speed(max) |
|  | TCM\_SPEED\_MIN | 轧制最小速度 | N | 5 | m/min |  |  | TCM speed(min) |
|  | CLASS\_1 | 延伸率在范围1的长度 | N | 4 | m |  |  | Strip-length where the thickness-+1% tolerance |
|  | CLASS\_2 | 延伸率在范围2的长度 | N | 4 | m |  |  | Strip-length where the thickness>+1% tolerance<4% |
|  | CLASS\_3 | 延伸率在范围3的长度 | N | 4 | m |  |  | Strip-length where the thickness>+4% tolerance |
|  | CLASS\_4 | 延伸率在范围4的长度 | N | 4 | m |  |  | Strip-length where the thickness<-1% tolerance>-4% |
|  | CLASS\_5 | 延伸率在范围5的长度 | N | 4 | m |  |  | Strip-length where the thickness<-4% tolerance |
|  | ROLL\_WRK\_U\_DIM | 末架上辊辊径 | N | 6 | mm |  |  |  |
|  | ROLL\_WRK\_L\_DIM | 末架下辊辊径 | N | 6 | mm |  |  |  |
|  | | | | | | | | |
|  | NO\_DEFECT | 缺陷数量 | N | 2 |  |  |  |  |
| [DEFECT] | | | | | | | | |
|  | AREA | 缺陷发生区域标志 | C | 1 |  |  |  | P=酸洗 T=轧制 |
|  | DEFECT\_CODE | 缺陷代码 | C | 6 |  |  |  | Kind of defect |
|  | INTENSITY | 严重程度 | N | 1 |  |  |  | 1=轻微 2=轻度 3=中等 4=严重 5=很重 |
|  | START\_POS | 缺陷开始位置 | N | 5 |  |  |  | Starting position of strip fault |
|  | END\_POS | 缺陷结束位置 | N | 5 |  |  |  | Ending position of strip fault |

### 2.11生产工程实绩:P214

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由L2主动上传** | **PA04** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P214 |
|  | EXIT\_COIL\_ID | 出口卷号 | C | 14 |  |  |  |  |
|  | ENTRY\_COIL\_ID | 入口卷号 | C | 14 |  |  |  |  |
|  | MOTHER\_COIL\_WEIGHT | 母卷重量 | N | 5 | Kg |  |  | WEIGHT OF MOTHER COIL |
|  | MOTHER\_COIL\_NUMBER | 母卷卷数 | N | 1 |  |  |  | NUMBER OF MOTHER COIL |
|  | Elong\_tens\_pcl | 酸洗段拉矫延伸率 | N | 2,1 | % |  |  | Elongation of tension leveler in pickling section |
|  | Insert\_depth\_1 | 1#矫直辊插入深度 | N | 3 | mm |  |  | Inserting depth of 1# leveling roll |
|  | Insert\_depth\_2 | 2#矫直辊插入深度 | N | 3 | mm |  |  | Inserting depth of 2# leveling roll |
|  | Insert\_depth\_3 | 3#弯曲辊插入深度 | N | 3 | mm |  |  | Inserting depth of 3# leveling roll |
|  | NomE\_exit\_width | *名义出口宽度* | N | 4 | mm |  |  | Nominal exit width |
|  | Target\_exit\_width | *目标出口宽度* | N | 4 | mm |  |  | Target exit width |
|  | Depth\_EDGE | 挖边深度 | N | 3 | mm |  |  | Depth of EDGE |
|  | Tension\_1\_decoiler | 1#开卷机张力 | N | 3,1 | KN |  |  | Tension of 1# decoiler |
|  | Tension\_2\_decoiler | 2#开卷机张力 | N | 3,1 | KN |  |  | Tension of 2# decoiler |
|  | Entry\_reduction\_1 | 1＃直头矫直机入口压下量 | N | 4，2 | mm |  |  | Entry reduction of 1# processor |
|  | Reduction\_mid\_1 | 1＃直头矫直机中间压下量 | N | 4，2 | mm |  |  | Reduction in middle position of 1# processor |
|  | Exit\_reduction\_1 | 1＃直头矫直机出口压下量 | N | 4，2 | Mm |  |  | Exit reduction of 1#processor |
|  | Entry\_reduction\_2 | 2＃直头矫直机入口压下量 | N | 4，2 | mm |  |  | Entry reduction of 2# processor |
|  | Reduction\_mid\_2 | 2＃直头矫直机中间压下量 | N | 4，2 | mm |  |  | Reduction in middle position of 2# processor |
|  | Exit\_reduction\_2 | 2＃直头矫直机出口压下量 | N | 4，2 | mm |  |  | Exit reduction of 2# processor |
|  | Inte\_roll\_shift | 中间辊串辊 | N | 4,1 | mm |  |  | Intermediate roll shift |
|  | Thick\_head | 是否厚带头轧制 | C | 1 |  |  |  | Thick\_head or not， =1 YES, =0 NO. |
|  | Total\_length\_strip | 带钢总长度 | N | 5 | m |  |  | Total length of strip |
|  | Code\_next\_procedure | *下工序代码* | C | 4 |  |  |  | Code of next work procedure |
|  | WORK\_ROLL\_U\_CROWN\_1 | 1架工作上辊凸度 | N | 3,2 | mm |  |  | Work UPPER roll crown of 1#stand |
|  | WORK\_ROLL\_L\_CROWN\_1 | 1架工作下辊凸度 | N | 3,2 | mm |  |  | Work LOWER roll crown of 1#stand |
|  | WORK\_ROLL\_U\_CROWN\_2 | 2架工作上辊凸度 | N | 3,2 | mm |  |  | Work UPPER roll crown of 2#stand |
|  | WORK\_ROLL\_L\_CROWN\_2 | 2架工作下辊凸度 | N | 3,2 | mm |  |  | Work LOWER roll crown of 2#stand |
|  | WORK\_ROLL\_U\_CROWN\_3 | 3架工作上辊凸度 | N | 3,2 | mm |  |  | Work UPPER roll crown of 3#stand |
|  | WORK\_ROLL\_L\_CROWN\_3 | 3架工作下辊凸度 | N | 3,2 | mm |  |  | Work LOWER roll crown of 3#stand |
|  | WORK\_ROLL\_U\_CROWN\_4 | 4架工作上辊凸度 | N | 3,2 | mm |  |  | Work UPPER roll crown of 4#stand |
|  | WORK\_ROLL\_L\_CROWN\_4 | 4架工作下辊凸度 | N | 3,2 | mm |  |  | Work LOWER roll crown of 4#stand |
|  | WORK\_ROLL\_U\_CROWN\_5 | 5架工作上辊凸度 | N | 3,2 | mm |  |  | Work UPPER roll crown of 5#stand |
|  | WORK\_ROLL\_L\_CROWN\_5 | 5架工作下辊凸度 | N | 3,2 | mm |  |  | Work LOWER roll crown of 5#stand |
|  | BACK\_ROLL\_U\_CROWN\_1 | 1架支持上辊凸度 | N | 3,2 | mm |  |  | Backup UPPER roll crown of 1#stand |
|  | BACK\_ROLL\_L\_CROWN\_1 | 1架支持下辊凸度 | N | 3,2 | mm |  |  | Backup LOWER roll crown of 1#stand |
|  | BACK\_ROLL\_U\_CROWN\_2 | 2架支持上辊凸度 | N | 3,2 | mm |  |  | Backup UPPER roll crown of 2#stand |
|  | BACK\_ROLL\_L\_CROWN\_2 | 2架支持下辊凸度 | N | 3,2 | mm |  |  | Backup LOWER roll crown of 2#stand |
|  | BACK\_ROLL\_U\_CROWN\_3 | 3架支持上辊凸度 | N | 3,2 | mm |  |  | Backup UPPER roll crown of 3#stand |
|  | BACK\_ROLL\_L\_CROWN\_3 | 3架支持下辊凸度 | N | 3,2 | mm |  |  | Backup LOWER roll crown of 3#stand |
|  | BACK\_ROLL\_U\_CROWN\_4 | 4架支持上辊凸度 | N | 3,2 | mm |  |  | Backup UPPER roll crown of 4#stand |
|  | BACK\_ROLL\_L\_CROWN\_4 | 4架支持下辊凸度 | N | 3,2 | mm |  |  | Backup LOWER roll crown of 4#stand |
|  | BACK\_ROLL\_U\_CROWN\_5 | 5架支持上辊凸度 | N | 3,2 | mm |  |  | Backup UPPER roll crown of 5#stand |
|  | BACK\_ROLL\_L\_CROWN\_5 | 5架支持下辊凸度 | N | 3,2 | mm |  |  | Backup LOWER roll crown of 5#stand |
|  | INTER\_ROLL\_U\_CROWN\_1 | 1架中间上辊凸度 | N | 3,2 | mm |  |  | Intermediate UPPER roll crown of 1 stand |
|  | INTER\_ROLL\_L\_CROWN\_1 | 1架中间下辊凸度 | N | 3,2 | mm |  |  | Intermediate LOWER roll crown of 1 stand |
|  | INTER\_ROLL\_U\_CROWN\_5 | 5架中间上辊凸度 | N | 3,2 | mm |  |  | Intermediate UPPER roll crown of 5 stand |
|  | INTER\_ROLL\_L\_CROWN\_5 | 5架中间下辊凸度 | N | 3,2 | mm |  |  | Intermediate LOWER roll crown of 5 stand |
|  | Texture\_type\_5 | 5架工作辊毛化方式 | C | 1 |  |  |  | Texture type of 5 stand(laser,edt or …) |
|  | Setp\_tension\_bef\_1 | 1架前设定张力 | N | 4 | KN |  |  | Setpoint tension before 1 stand |
|  | Setp\_tension\_betw\_1\_2 | 1－2架设定张力 | N | 4 | KN |  |  | Setpoint tension between 1-2 |
|  | Setp\_tension\_betw\_2\_3 | 2－3架设定张力 | N | 4 | KN |  |  | Setpoint tension between 2-3 |
|  | Setp\_tension\_betw\_3\_4 | 3－4架设定张力 | N | 4 | KN |  |  | Setpoint tension between 3-4 |
|  | Setp\_tension\_betw\_4\_5 | 4－5架设定张力 | N | 4 | KN |  |  | Setpoint tension between 4-5 |
|  | Step\_tension\_coil | 卷取设定张力 | N | 4 | KN |  |  | Stepoint tension of coiler |
|  | Reduction\_1 | 1架压下率 | N | 3,1 | ％ |  |  | Reduction of 1 stand |
|  | Reduction\_2 | 2架压下率 | N | 3,1 | ％ |  |  | Reduction of 2 stand |
|  | Reduction\_3 | 3架压下率 | N | 3,1 | ％ |  |  | Reduction of 3 stand |
|  | Reduction\_4 | 4架压下率 | N | 3,1 | ％ |  |  | Reduction of 4 stand |
|  | Reduction \_5 | 5架压下率 | N | 3,1 | ％ |  |  | Reduction of 5 stand |
|  | Total\_reduction | 总压下率 | N | 3,1 | ％ |  |  | Total reduction |
|  | Rolling\_type | 轧制方式 | C | 1 |  |  |  | Rolling type |
|  | Total\_defect\_len | 总缺陷长度 | N | 4 | m |  |  | Total defect length |
|  | Defect\_len\_head | 带头缺陷长度 | N | 4 | m |  |  | Defect length of strip head |
|  | Defect\_len\_tail | 带尾缺陷长度 | N | 4 | m |  |  | Defect length of strip tail |
|  | Amount\_defect | 质量缺陷数量 | N | 2 |  |  |  | Amount of quality defect |
|  | Coil\_id\_1\_entry | 入口卷号1 | C | 14 |  |  |  | Coil id 1 of entry |
|  | Weight\_1 | *入口卷1重量* | N | 5 | Kg |  |  | Weight of Coil id 1 |
|  | Thick\_1 | *入口卷1厚度* | N | 4,3 | mm |  |  | Thickness of Coil id 1 |
|  | Width\_1 | *入口卷1宽度* | N | 5,1 | mm |  |  | Width of Coil id 1 |
|  | Weight\_flag\_1 | 入口卷1计重标志 | C | 1 |  |  |  | Weighing flag of Coil id 1 |
|  | Minus\_tolerance\_flag\_1 | 负公差轧制标志 | C | 1 |  |  |  | Minus tolerance flag1 |
|  | Begin\_time\_PCL\_1 | 酸洗开始时间 | DT |  |  |  |  | Beginning time of pickling |
|  | End\_time\_PCL\_1 | 酸洗结束时间 | DT |  |  |  |  | Ending time of pickling |
|  | Entry\_tension\_1 | 拉矫入口张力 | N | 3 | KN |  |  | Entry tension of tension leveller |
|  | Exit\_tension\_1 | 拉矫出口张力 | N | 3 | KN |  |  | Exit tension of tension leveller |
|  | Actual\_trim\_width\_1 | 实际剪边量 | N | 2 | mm |  |  | Actual side trimming width |
|  | Ave\_speed\_entry\_1 | 入口段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of entry section |
|  | Ave\_speed\_mid\_1 | 中段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of middle section |
|  | Ave\_speed\_exit\_1 | 出口段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of exit section |
|  | PCL\_speed\_head\_tail\_1 | 头尾酸洗速度 | N | 5 | m/min |  |  | Pickling speed of head and tail |
|  | acid\_concentrate\_GEN\_1 | 再生酸游离酸浓度 | N | 4,1 | g/l |  |  | Generative and disassociate acid concentrate |
|  | Fe2\_concentrate\_GEN\_1 | 再生酸亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of generative acid |
|  | Total\_acid\_concentrate\_GEN\_1 | 再生酸总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of generative acid |
|  | acid\_concentrate\_1\_1 | 1#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 1# tank |
|  | Fe2\_concentrate\_1\_1 | 1#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 1#tank |
|  | Total\_acid\_concentrate\_1\_1 | 1#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 1# tank |
|  | acid\_concentrate\_2\_1 | 2#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 2# tank |
|  | Fe2\_concentrate\_2\_1 | 2#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 2#tank |
|  | Total\_acid\_concentrate\_2\_1 | 2#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 2# tank |
|  | acid\_concentrate\_3\_1 | 3#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 3# tank |
|  | Fe2\_concentrate\_3\_1 | 3#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 3#tank |
|  | Total\_acid\_concentrate\_3\_1 | 3#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 3# tank |
|  | Cond\_water\_rinS\_1 | 冲洗槽水电导率 | N | 2 | µ/cm |  |  | Conductance of water in rinsing tank |
|  | PH\_water\_rins\_1 | 冲洗槽水PH值 | N | 2,1 |  |  |  | PH value of water in rinsing tank |
|  | Temp\_water\_rins\_1 | 冲洗槽水温度 | N | 2 | ℃ |  |  | Temperature of water in rinsing tank |
|  | Bake\_temp\_1 | 烘干温度 | N | 3 | ℃ |  |  | Bakening temperature |
|  | Actu\_outside\_diameter\_1 | 实测钢卷外径 | N | 4 | mm |  |  | Actual outside diameter of coil |
|  | Tension\_entry\_loop\_1 | 入口活套张力 | N | 2 | KN |  |  | Tension of entry loop |
|  | Tension\_eXIT\_ loop\_1\_1 | 出口1＃活套张力 | N | 2 | KN |  |  | Tension of entry loop 1 |
|  | Tension\_eXIT\_loop\_2\_1 | 出口2＃活套张力 | N | 2 | KN |  |  | Tension of entry loop2 |
|  | Weld\_speed\_1 | 焊接速度 | N | 3 | % |  |  | Welding speed |
|  | Laser\_power\_1 | 激光功率 | N | 3 | % |  |  | Laser power |
|  | Threa\_fre\_1 | 门槛频率 | N | 2,1 | KHz |  |  | Threashold frequency |
|  | Laser\_work\_dist\_1 | 激光工作距离 | N | 3,2 | mm |  |  | Laser working distance |
|  | Pres\_laser\_head\_1 | 激光头压力 | N | 3,2 | Bar |  |  | Pressure of laser head |
|  | WORKTABLE\_TUNE\_1 | 工作台调整 | N | 3,2 | mm |  |  | WORKTABLE TUNE |
|  | Edge\_pressure\_1 | 带钢边部压力 | N | 3,2 | Bar |  |  | Edge pressure of strip |
|  | Skin\_pass\_pressure\_1 | 光整压力 | N | 3,2 | Bar |  |  | Skin pass pressure |
|  | Preheat\_power\_1 | 预热功率 | N | 3,2 | KW |  |  | Preheating power |
|  | Begin\_time\_roll\_1 | 轧制开始时间 | DT |  |  |  |  | Beginning time of rolling |
|  | End\_time\_roll\_1 | 轧制结束时间 | DT |  |  |  |  | Ending time of rolling |
|  | Actu\_len\_coil\_1 | 冷卷实测长度 | N | 4 | m |  |  | Actual length of cold coil |
|  | Setp\_thick\_exit\_1 | 轧机出口设定厚度 | N | 4，3 | mm |  |  | Setpoint thickness of plant exit |
|  | Rough\_upp\_work\_roll\_1\_1 | 1架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 1 stand |
|  | Rough\_LOW\_work\_roll\_1\_1 | 1架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 1 stand |
|  | Rough\_upp\_work\_roll\_2\_1 | 2架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 2 stand |
|  | Rough\_LOW\_work\_roll\_2\_1 | 2架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 2 stand |
|  | Rough\_upp\_work\_roll\_3\_1 | 3架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 3 stand |
|  | Rough\_LOW\_work\_roll\_3\_1 | 3架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 3 stand |
|  | Rough\_upp\_work\_roll\_4\_1 | 4架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 4 stand |
|  | Rough\_LOW\_work\_roll\_4\_1 | 4架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 4 stand |
|  | Rough\_upp\_work\_roll\_5\_1 | 5架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 5 stand |
|  | Rough\_LOW\_work\_roll\_5\_1 | 5架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 5 stand |
|  | Rough\_upp\_back\_roll\_1\_1 | 1架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 1 stand |
|  | Rough\_LOW\_back\_roll\_1\_1 | 1架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 1 stand |
|  | Rough\_upp\_back\_roll\_2\_1 | 2架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 2 stand |
|  | Rough\_LOW\_back\_roll\_2\_1 | 2架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 2 stand |
|  | Rough\_upp\_back\_roll\_3\_1 | 3架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 3 stand |
|  | Rough\_LOW\_back\_roll\_3\_1 | 3架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 3 stand |
|  | Rough\_upp\_back\_roll\_4\_1 | 4架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 4 stand |
|  | Rough\_LOW\_back\_roll\_4\_1 | 4架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 4 stand |
|  | Rough\_upp\_back\_roll\_5\_1 | 5架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 5 stand |
|  | Rough\_LOW\_back\_roll\_5\_1 | 5架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 5 stand |
|  | rough\_Upp\_Inter\_roll\_1\_1 | 1架上中间辊粗糙度 | N | 4，3 | µm |  |  | Upper Intermediate roll roughness for 1 stand |
|  | rough\_LOW\_Inter\_roll\_1\_1 | 1架下中间辊粗糙度 | N | 4，3 | µm |  |  | lower Intermediate roll roughness for 1 stand |
|  | rough\_Upp\_Inter\_roll\_5\_1 | 5架上中间辊粗糙度 | N | 4，3 | µm |  |  | Upper Intermediate roll roughness for 5 stand |
|  | rough\_LOW\_Inter\_roll\_5\_1 | 5架下中间辊粗糙度 | N | 4，3 | µm |  |  | lower Intermediate roll roughness for 5 stand |
|  | Diam\_upp\_work\_roll\_1\_1 | 1架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 1 stand |
|  | Diam\_LOW\_work\_roll\_1\_1 | 1架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 1 stand |
|  | Diam\_upp\_work\_roll\_2\_1 | 2架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 2 stand |
|  | Diam\_LOW\_work\_roll\_2\_1 | 2架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 2 stand |
|  | Diam\_upp\_work\_roll\_3\_1 | 3架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 3 stand |
|  | Diam\_LOW\_work\_roll\_3\_1 | 3架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 3 stand |
|  | Diam\_upp\_work\_roll\_4\_1 | 4架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 4 stand |
|  | Diam\_LOW\_work\_roll\_4\_1 | 4架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 4 stand |
|  | Diam\_upp\_work\_roll\_5\_1 | 5架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 5 stand |
|  | Diam\_LOW\_work\_roll\_5\_1 | 5架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 5 stand |
|  | Diam\_upp\_back\_roll\_1\_1 | 1架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 1 stand |
|  | Diam\_LOW\_back\_roll\_1\_1 | 1架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 1 stand |
|  | Diam\_upp\_back\_roll\_2\_1 | 2架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 2 stand |
|  | Diam\_LOW\_back\_roll\_2\_1 | 2架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 2 stand |
|  | Diam\_upp\_back\_roll\_3\_1 | 3架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 3 stand |
|  | Diam\_LOW\_back\_roll\_3\_1 | 3架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 3 stand |
|  | Diam\_upp\_back\_roll\_4\_1 | 4架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 4 stand |
|  | Diam\_LOW\_back\_roll\_4\_1 | 4架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 4 stand |
|  | Diam\_upp\_back\_roll\_5\_1 | 5架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 5 stand |
|  | Diam\_LOW\_back\_roll\_5\_1 | 5架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 5 stand |
|  | Diam\_upp\_nter\_roll\_1\_1 | 1架上中间辊直径 | N | 4,1 | mm |  |  | Diameter of upper intermediate roll for 1 stand |
|  | Diam\_LOW\_nter\_roll\_1\_1 | 1架下中间辊直径 | N | 4,1 | mm |  |  | Diameter of lower intermediate roll for 1 stand |
|  | Diam\_upp\_nter\_roll\_5\_1 | 5架上中间辊直径 | N | 4,1 | mm |  |  | Diameter of upper intermediate roll for 5 stand |
|  | Diam\_LOW\_nter\_roll\_5\_1 | 5架下中间辊直径 | N | 4,1 | mm |  |  | Diameter of lower intermediate roll for 5 stand |
|  | tons\_work\_roll\_1\_1 | 1架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 1 |
|  | tons\_back\_roll\_1\_1 | 1架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 1 |
|  | tons\_work\_roll\_2\_1 | 2架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 2 |
|  | tons\_back\_roll\_2\_1 | 2架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 2 |
|  | tons\_work\_roll\_3\_1 | 3架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 3 |
|  | tons\_back\_roll\_3\_1 | 3架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 3 |
|  | tons\_work\_roll\_4\_1 | 4架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 4 |
|  | tons\_back\_roll\_4\_1 | 4架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 4 |
|  | tons\_work\_roll\_5\_1 | 5架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 5 |
|  | tons\_back\_roll\_5\_1 | 5架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 5 |
|  | tons\_inter\_roll\_1\_1 | 1架中间辊轧制吨数 | N | 4 | T |  |  | Rolling tons of intermediate roll in stand 1 |
|  | tons\_inter\_roll\_5\_1 | 5架中间辊轧制吨数 | N | 4 | T |  |  | Rolling tons of intermediate roll in stand 5 |
|  | Exit\_ave\_speed\_1\_1 | 1架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 1 |
|  | Exit\_ave\_speed\_2\_1 | 2架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 2 |
|  | Exit\_ave\_speed\_3\_1 | 3架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 3 |
|  | Exit\_ave\_speed\_4\_1 | 4架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 4 |
|  | Exit\_ave\_speed\_5\_1 | 5架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 5 |
|  | Actu\_ave\_tension\_bef\_1\_1 | 1架前实际平均张力 | N | 4 | KN |  |  | Actual ave tension before stand 1 |
|  | Actu\_ave\_tension\_bet\_1\_2\_1 | 1－2架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 1 and 2 |
|  | Actu\_ave\_tension\_bet\_2\_3\_1 | 2－3架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 2 and 3 |
|  | Actu\_ave\_tension\_bet\_3\_4\_1 | 3－4架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 3 and 4 |
|  | Actu\_ave\_tension\_bet\_4\_5\_1 | 4－5架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 4 and 5 |
|  | Actu\_ave\_tension\_coiler\_1 | 卷取实际平均张力 | N | 4 | KN |  |  | Actual ave tension of coiler |
|  | std\_tension\_bef\_1\_1 | 1架前张力差 | N | 4，1 | KN |  |  | std tension before stand 1 |
|  | std\_tension\_bet\_1\_2\_1 | 1－2架张力差 | N | 4，1 | KN |  |  | std tension between 1 and 2 |
|  | std\_tension\_bet\_2\_3\_1 | 2－3架张力差 | N | 4，1 | KN |  |  | std tension between 2 and 3 |
|  | std\_tension\_bet\_3\_4\_1 | 3－4架张力差 | N | 4，1 | KN |  |  | std tension between 3 and 4 |
|  | std\_tension\_bet\_4\_5\_1 | 4－5架张力差 | N | 4，1 | KN |  |  | std tension between 4 and 5 |
|  | std\_tension\_coiler\_1 | 卷取张力差 | N | 4，1 | KN |  |  | std tension of coiler |
|  | Work\_roll\_bend\_1\_1 | 1架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | Work\_roll\_bend\_2\_1 | 2架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 2 |
|  | Work\_roll\_bend\_3\_1 | 3架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 3 |
|  | Work\_roll\_bend\_4\_1 | 4架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 4 |
|  | Work\_roll\_bend\_5\_1 | 5架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 5 |
|  | INTER\_roll\_bend\_1\_1 | 1架中间辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | INTER\_roll\_bend\_5\_1 | 5架中间辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | Inter\_roll\_shift\_1\_1 | 1架中间辊横移量 | N | 3 | mm |  |  | Intermediate roll shift in stand 1 |
|  | Inter\_roll\_shift\_5\_1 | 5架中间辊横移量 | N | 3 | mm |  |  | Intermediate roll shift in stand 5 |
|  | Aver\_force\_1\_1 | 1架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 1 |
|  | Aver\_force\_2\_1 | 2架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 2 |
|  | Aver\_force\_3\_1 | 3架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 3 |
|  | Aver\_force\_4\_1 | 4架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 4 |
|  | Aver\_force\_5\_1 | 5架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 5 |
|  | std\_force\_1\_1 | 1架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 1 |
|  | std\_force\_2\_1 | 2架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 2 |
|  | std\_force\_3\_1 | 3架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 3 |
|  | std\_force\_4\_1 | 4架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 4 |
|  | std\_force\_5\_1 | 5架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 5 |
|  | TiltE\_1\_1 | 1架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 1 |
|  | TiltE\_2\_1 | 2架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 2 |
|  | TiltE\_3\_1 | 3架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 3 |
|  | TiltE\_4\_1 | 4架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 4 |
|  | TiltE\_5\_1 | 5架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 5 |
|  | Roll\_gap\_1\_1 | 1架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 1 |
|  | Roll\_gap\_2\_1 | 2架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 2 |
|  | Roll\_gap\_3\_1 | 3架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 3 |
|  | Roll\_gap\_4\_1 | 4架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 4 |
|  | Roll\_gap\_5\_1 | 5架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 5 |
|  | thick\_beFore\_1\_1 | 1架前厚度 | N | 4,3 | mm |  |  | thickness beFore stand 1 |
|  | thick\_after\_1\_1 | 1架后厚度 | N | 4,3 | mm |  |  | thickness after stand 1 |
|  | thick\_beFore\_5\_1 | 5架前厚度 | N | 4,3 | mm |  |  | thickness beFore stand 5 |
|  | thick\_after\_5\_1 | 5架后厚度 | N | 4,3 | mm |  |  | thickness after stand 5 |
|  | std\_thick\_BEFORE\_1\_1 | 1架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness BEFORE stand 1 |
|  | std\_thick\_after\_1\_1 | 1架后厚度偏差 | N | 4,3 | mm |  |  | std of thickness after stand 1 |
|  | std\_thick\_BEFORE\_5\_1 | 5架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness BEFORE stand 5 |
|  | std\_thick\_after\_5\_1 | 5架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness after stand 5 |
|  | Thick\_min\_exit\_1 | 出口最小厚度 | N | 4,3 | mm |  |  | min Thickness of exit section |
|  | Thick\_max\_exit\_1 | 出口最大厚度 | N | 4,3 | mm |  |  | max Thickness of exit section |
|  | pos\_Thick\_max\_exit\_1 | 出口最大厚度位置 | N | 4 | m |  |  | the position of max thickness in exit section |
|  | flat\_max\_exit\_1 | 出口最大平直度 | N | 2,1 | I |  |  | the max flatness in exit section |
|  | flat\_min\_exit\_1 | 出口最小平直度 | N | 2,1 | I |  |  | the min flatness in exit section |
|  | Aver\_flatness\_exit\_1 | 出口平均平直度 | N | 2,1 | I |  |  | Average flatness of exit |
|  | A\_emul\_conce\_1 | A乳液浓度 | N | 3,2 | ％ |  |  | A tank emulsion concentration |
|  | L\_emul\_conce\_1 | L乳液浓度 | N | 3,2 | ％ |  |  | Ltank emulsion concentration |
|  | A\_Iron\_powder\_conce\_1 | A乳液铁粉含量 | N | 3 | g/l |  |  | Iron powder concentration in emultion of A tank |
|  | L\_Iron\_powder\_conce\_1 | L乳液铁粉含量 | N | 3 | g/l |  |  | Iron powder concentration in emultion of L tank |
|  | A\_Waste\_oil\_1 | A乳液杂油含量 | N | 2 | % |  |  | Waste oil percentage in A tank |
|  | L\_Waste\_oil\_1 | L乳液杂油含量 | N | 2 | % |  |  | Waste oil percentage in l tank |
|  | Emu\_TEMP\_1\_1 | 1架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 1 |
|  | Emu\_TEMP\_2\_1 | 2架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 2 |
|  | Emu\_TEMP\_3\_1 | 3架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 3 |
|  | Emu\_TEMP\_4\_1 | 4架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 4 |
|  | Emu\_TEMP\_5\_1 | 5架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 5 |
|  | Coil\_id\_2\_entry | 入口卷号2 | C | 14 |  |  |  | Coil id 2 of entry |
|  | Weight\_2 | *入口卷2重量* | N | 5 | Kg |  |  | Weight of Coil id 2 |
|  | Thick\_2 | *入口卷2厚度* | N | 4,3 | mm |  |  | Thickness of Coil id 2 |
|  | Width\_2 | *入口卷2宽度* | N | 5,1 | mm |  |  | Width of Coil id 2 |
|  | Weight\_flag\_2 | 入口卷2计重标志 | C | 1 |  |  |  | Weighing flag of Coil id 2 |
|  | Minus\_tolerance\_flag\_2 | 负公差轧制标志 | C | 1 |  |  |  | Minus tolerance flag2 |
|  | Begin\_time\_PCL\_2 | 酸洗开始时间 | DT |  |  |  |  | Beginning time of pickling |
|  | End\_time\_PCL\_2 | 酸洗结束时间 | DT |  |  |  |  | Ending time of pickling |
|  | Entry\_tension\_2 | 拉矫入口张力 | N | 3 | KN |  |  | Entry tension of tension leveller |
|  | Exit\_tension\_2 | 拉矫出口张力 | N | 3 | KN |  |  | Exit tension of tension leveller |
|  | Actual\_trim\_width\_2 | 实际剪边量 | N | 2 | mm |  |  | Actual side trimming width |
|  | Ave\_speed\_entry\_2 | 入口段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of entry section |
|  | Ave\_speed\_mid\_2 | 中段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of middle section |
|  | Ave\_speed\_exit\_2 | 出口段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of exit section |
|  | PCL\_speed\_head\_tail\_2 | 头尾酸洗速度 | N | 5 | m/min |  |  | Pickling speed of head and tail |
|  | acid\_concentrate\_GEN\_2 | 再生酸游离酸浓度 | N | 4,1 | g/l |  |  | Generative and disassociate acid concentrate |
|  | Fe2\_concentrate\_GEN\_2 | 再生酸亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of generative acid |
|  | Total\_acid\_concentrate\_GEN\_2 | 再生酸总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of generative acid |
|  | acid\_concentrate\_1\_2 | 1#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 1# tank |
|  | Fe2\_concentrate\_1\_2 | 1#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 1#tank |
|  | Total\_acid\_concentrate\_1\_2 | 1#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 1# tank |
|  | acid\_concentrate\_2\_2 | 2#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 2# tank |
|  | Fe2\_concentrate\_2\_2 | 2#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 2#tank |
|  | Total\_acid\_concentrate\_2\_2 | 2#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 2# tank |
|  | acid\_concentrate\_3\_2 | 3#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 3# tank |
|  | Fe2\_concentrate\_3\_2 | 3#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 3#tank |
|  | Total\_acid\_concentrate\_3\_2 | 3#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 3# tank |
|  | Cond\_water\_rinS\_2 | 冲洗槽水电导率 | N | 2 | µ/cm |  |  | Conductance of water in rinsing tank |
|  | PH\_water\_rins\_2 | 冲洗槽水PH值 | N | 2,1 |  |  |  | PH value of water in rinsing tank |
|  | Temp\_water\_rins\_2 | 冲洗槽水温度 | N | 2 | ℃ |  |  | Temperature of water in rinsing tank |
|  | Bake\_temp\_2 | 烘干温度 | N | 3 | ℃ |  |  | Bakening temperature |
|  | Actu\_outside\_diameter\_2 | 实测钢卷外径 | N | 4 | mm |  |  | Actual outside diameter of coil |
|  | Tension\_entry\_loop\_2 | 入口活套张力 | N | 2 | KN |  |  | Tension of entry loop |
|  | Tension\_eXIT\_ loop\_1\_2 | 出口1＃活套张力 | N | 2 | KN |  |  | Tension of entry loop 1 |
|  | Tension\_eXIT\_loop\_2\_2 | 出口2＃活套张力 | N | 2 | KN |  |  | Tension of entry loop2 |
|  | Weld\_speed\_2 | 焊接速度 | N | 3 | % |  |  | Welding speed |
|  | Laser\_power\_2 | 激光功率 | N | 3 | % |  |  | Laser power |
|  | Threa\_fre\_2 | 门槛频率 | N | 2,1 | KHz |  |  | Threashold frequency |
|  | Laser\_work\_dist\_2 | 激光工作距离 | N | 3,2 | mm |  |  | Laser working distance |
|  | Pres\_laser\_head\_2 | 激光头压力 | N | 3,2 | Bar |  |  | Pressure of laser head |
|  | WORKTABLE\_TUNE\_2 | 工作台调整 | N | 3,2 | mm |  |  | WORKTABLE TUNE |
|  | Edge\_pressure\_2 | 带钢边部压力 | N | 3,2 | Bar |  |  | Edge pressure of strip |
|  | Skin\_pass\_pressure\_2 | 光整压力 | N | 3,2 | Bar |  |  | Skin pass pressure |
|  | Preheat\_power\_2 | 预热功率 | N | 3,2 | KW |  |  | Preheating power |
|  | Begin\_time\_roll\_2 | 轧制开始时间 | DT |  |  |  |  | Beginning time of rolling |
|  | End\_time\_roll\_2 | 轧制结束时间 | DT |  |  |  |  | Ending time of rolling |
|  | Actu\_len\_coil\_2 | 冷卷实测长度 | N | 4 | m |  |  | Actual length of cold coil |
|  | Setp\_thick\_exit\_2 | 轧机出口设定厚度 | N | 4，3 | mm |  |  | Setpoint thickness of plant exit |
|  | Rough\_upp\_work\_roll\_1\_2 | 1架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 1 stand |
|  | Rough\_LOW\_work\_roll\_1\_2 | 1架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 1 stand |
|  | Rough\_upp\_work\_roll\_2\_2 | 2架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 2 stand |
|  | Rough\_LOW\_work\_roll\_2\_2 | 2架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 2 stand |
|  | Rough\_upp\_work\_roll\_3\_2 | 3架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 3 stand |
|  | Rough\_LOW\_work\_roll\_3\_2 | 3架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 3 stand |
|  | Rough\_upp\_work\_roll\_4\_2 | 4架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 4 stand |
|  | Rough\_LOW\_work\_roll\_4\_2 | 4架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 4 stand |
|  | Rough\_upp\_work\_roll\_5\_2 | 5架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 5 stand |
|  | Rough\_LOW\_work\_roll\_5\_2 | 5架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 5 stand |
|  | Rough\_upp\_back\_roll\_1\_2 | 1架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 1 stand |
|  | Rough\_LOW\_back\_roll\_1\_2 | 1架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 1 stand |
|  | Rough\_upp\_back\_roll\_2\_2 | 2架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 2 stand |
|  | Rough\_LOW\_back\_roll\_2\_2 | 2架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 2 stand |
|  | Rough\_upp\_back\_roll\_3\_2 | 3架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 3 stand |
|  | Rough\_LOW\_back\_roll\_3\_2 | 3架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 3 stand |
|  | Rough\_upp\_back\_roll\_4\_2 | 4架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 4 stand |
|  | Rough\_LOW\_back\_roll\_4\_2 | 4架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 4 stand |
|  | Rough\_upp\_back\_roll\_5\_2 | 5架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 5 stand |
|  | Rough\_LOW\_back\_roll\_5\_2 | 5架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 5 stand |
|  | rough\_Upp\_Inter\_roll\_1\_2 | 1架上中间辊粗糙度 | N | 4，3 | µm |  |  | Upper Intermediate roll roughness for 1 stand |
|  | rough\_LOW\_Inter\_roll\_1\_2 | 1架下中间辊粗糙度 | N | 4，3 | µm |  |  | lower Intermediate roll roughness for 1 stand |
|  | rough\_Upp\_Inter\_roll\_5\_2 | 5架上中间辊粗糙度 | N | 4，3 | µm |  |  | Upper Intermediate roll roughness for 5 stand |
|  | rough\_LOW\_Inter\_roll\_5\_2 | 5架下中间辊粗糙度 | N | 4，3 | µm |  |  | lower Intermediate roll roughness for 5 stand |
|  | Diam\_upp\_work\_roll\_1\_2 | 1架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 1 stand |
|  | Diam\_LOW\_work\_roll\_1\_2 | 1架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 1 stand |
|  | Diam\_upp\_work\_roll\_2\_2 | 2架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 2 stand |
|  | Diam\_LOW\_work\_roll\_2\_2 | 2架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 2 stand |
|  | Diam\_upp\_work\_roll\_3\_2 | 3架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 3 stand |
|  | Diam\_LOW\_work\_roll\_3\_2 | 3架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 3 stand |
|  | Diam\_upp\_work\_roll\_4\_2 | 4架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 4 stand |
|  | Diam\_LOW\_work\_roll\_4\_2 | 4架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 4 stand |
|  | Diam\_upp\_work\_roll\_5\_2 | 5架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 5 stand |
|  | Diam\_LOW\_work\_roll\_5\_2 | 5架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 5 stand |
|  | Diam\_upp\_back\_roll\_1\_2 | 1架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 1 stand |
|  | Diam\_LOW\_back\_roll\_1\_2 | 1架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 1 stand |
|  | Diam\_upp\_back\_roll\_2\_2 | 2架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 2 stand |
|  | Diam\_LOW\_back\_roll\_2\_2 | 2架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 2 stand |
|  | Diam\_upp\_back\_roll\_3\_2 | 3架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 3 stand |
|  | Diam\_LOW\_back\_roll\_3\_2 | 3架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 3 stand |
|  | Diam\_upp\_back\_roll\_4\_2 | 4架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 4 stand |
|  | Diam\_LOW\_back\_roll\_4\_2 | 4架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 4 stand |
|  | Diam\_upp\_back\_roll\_5\_2 | 5架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 5 stand |
|  | Diam\_LOW\_back\_roll\_5\_2 | 5架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 5 stand |
|  | Diam\_upp\_nter\_roll\_1\_2 | 1架上中间辊直径 | N | 4,1 | mm |  |  | Diameter of upper intermediate roll for 1 stand |
|  | Diam\_LOW\_nter\_roll\_1\_2 | 1架下中间辊直径 | N | 4,1 | mm |  |  | Diameter of lower intermediate roll for 1 stand |
|  | Diam\_upp\_nter\_roll\_5\_2 | 5架上中间辊直径 | N | 4,1 | mm |  |  | Diameter of upper intermediate roll for 5 stand |
|  | Diam\_LOW\_nter\_roll\_5\_2 | 5架下中间辊直径 | N | 4,1 | mm |  |  | Diameter of lower intermediate roll for 5 stand |
|  | tons\_work\_roll\_1\_2 | 1架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 1 |
|  | tons\_back\_roll\_1\_2 | 1架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 1 |
|  | tons\_work\_roll\_2\_2 | 2架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 2 |
|  | tons\_back\_roll\_2\_2 | 2架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 2 |
|  | tons\_work\_roll\_3\_2 | 3架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 3 |
|  | tons\_back\_roll\_3\_2 | 3架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 3 |
|  | tons\_work\_roll\_4\_2 | 4架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 4 |
|  | tons\_back\_roll\_4\_2 | 4架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 4 |
|  | tons\_work\_roll\_5\_2 | 5架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 5 |
|  | tons\_back\_roll\_5\_2 | 5架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 5 |
|  | tons\_inter\_roll\_1\_2 | 1架中间辊轧制吨数 | N | 4 | T |  |  | Rolling tons of intermediate roll in stand 1 |
|  | tons\_inter\_roll\_5\_2 | 5架中间辊轧制吨数 | N | 4 | T |  |  | Rolling tons of intermediate roll in stand 5 |
|  | Exit\_ave\_speed\_1\_2 | 1架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 1 |
|  | Exit\_ave\_speed\_2\_2 | 2架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 2 |
|  | Exit\_ave\_speed\_3\_2 | 3架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 3 |
|  | Exit\_ave\_speed\_4\_2 | 4架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 4 |
|  | Exit\_ave\_speed\_5\_2 | 5架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 5 |
|  | Actu\_ave\_tension\_bef\_1\_2 | 1架前实际平均张力 | N | 4 | KN |  |  | Actual ave tension before stand 1 |
|  | Actu\_ave\_tension\_bet\_1\_2\_2 | 1－2架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 1 and 2 |
|  | Actu\_ave\_tension\_bet\_2\_3\_2 | 2－3架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 2 and 3 |
|  | Actu\_ave\_tension\_bet\_3\_4\_2 | 3－4架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 3 and 4 |
|  | Actu\_ave\_tension\_bet\_4\_5\_2 | 4－5架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 4 and 5 |
|  | Actu\_ave\_tension\_coiler\_2 | 卷取实际平均张力 | N | 4 | KN |  |  | Actual ave tension of coiler |
|  | std\_tension\_bef\_1\_2 | 1架前张力差 | N | 4，1 | KN |  |  | std tension before stand 1 |
|  | std\_tension\_bet\_1\_2\_2 | 1－2架张力差 | N | 4，1 | KN |  |  | std tension between 1 and 2 |
|  | std\_tension\_bet\_2\_3\_2 | 2－3架张力差 | N | 4，1 | KN |  |  | std tension between 2 and 3 |
|  | std\_tension\_bet\_3\_4\_2 | 3－4架张力差 | N | 4，1 | KN |  |  | std tension between 3 and 4 |
|  | std\_tension\_bet\_4\_5\_2 | 4－5架张力差 | N | 4，1 | KN |  |  | std tension between 4 and 5 |
|  | std\_tension\_coiler\_2 | 卷取张力差 | N | 4，1 | KN |  |  | std tension of coiler |
|  | Work\_roll\_bend\_1\_2 | 1架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | Work\_roll\_bend\_2\_2 | 2架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 2 |
|  | Work\_roll\_bend\_3\_2 | 3架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 3 |
|  | Work\_roll\_bend\_4\_2 | 4架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 4 |
|  | Work\_roll\_bend\_5\_2 | 5架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 5 |
|  | INTER\_roll\_bend\_1\_2 | 1架中间辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | INTER\_roll\_bend\_5\_2 | 5架中间辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | Inter\_roll\_shift\_1\_2 | 1架中间辊横移量 | N | 3 | mm |  |  | Intermediate roll shift in stand 1 |
|  | Inter\_roll\_shift\_5\_2 | 5架中间辊横移量 | N | 3 | mm |  |  | Intermediate roll shift in stand 5 |
|  | Aver\_force\_1\_2 | 1架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 1 |
|  | Aver\_force\_2\_2 | 2架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 2 |
|  | Aver\_force\_3\_2 | 3架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 3 |
|  | Aver\_force\_4\_2 | 4架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 4 |
|  | Aver\_force\_5\_2 | 5架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 5 |
|  | std\_force\_1\_2 | 1架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 1 |
|  | std\_force\_2\_2 | 2架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 2 |
|  | std\_force\_3\_2 | 3架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 3 |
|  | std\_force\_4\_2 | 4架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 4 |
|  | std\_force\_5\_2 | 5架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 5 |
|  | TiltE\_1\_2 | 1架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 1 |
|  | TiltE\_2\_2 | 2架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 2 |
|  | TiltE\_3\_2 | 3架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 3 |
|  | TiltE\_4\_2 | 4架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 4 |
|  | TiltE\_5\_2 | 5架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 5 |
|  | Roll\_gap\_1\_2 | 1架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 1 |
|  | Roll\_gap\_2\_2 | 2架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 2 |
|  | Roll\_gap\_3\_2 | 3架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 3 |
|  | Roll\_gap\_4\_2 | 4架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 4 |
|  | Roll\_gap\_5\_2 | 5架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 5 |
|  | thick\_beFore\_1\_2 | 1架前厚度 | N | 4,3 | mm |  |  | thickness beFore stand 1 |
|  | thick\_after\_1\_2 | 1架后厚度 | N | 4,3 | mm |  |  | thickness after stand 1 |
|  | thick\_beFore\_5\_2 | 5架前厚度 | N | 4,3 | mm |  |  | thickness beFore stand 5 |
|  | thick\_after\_5\_2 | 5架后厚度 | N | 4,3 | mm |  |  | thickness after stand 5 |
|  | std\_thick\_BEFORE\_1\_2 | 1架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness BEFORE stand 1 |
|  | std\_thick\_after\_1\_2 | 1架后厚度偏差 | N | 4,3 | mm |  |  | std of thickness after stand 1 |
|  | std\_thick\_BEFORE\_5\_2 | 5架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness BEFORE stand 5 |
|  | std\_thick\_after\_5\_2 | 5架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness after stand 5 |
|  | Thick\_min\_exit\_2 | 出口最小厚度 | N | 4,3 | mm |  |  | min Thickness of exit section |
|  | Thick\_max\_exit\_2 | 出口最大厚度 | N | 4,3 | mm |  |  | max Thickness of exit section |
|  | pos\_Thick\_max\_exit\_2 | 出口最大厚度位置 | N | 4 | m |  |  | the position of max thickness in exit section |
|  | flat\_max\_exit\_2 | 出口最大平直度 | N | 2,1 | I |  |  | the max flatness in exit section |
|  | flat\_min\_exit\_2 | 出口最小平直度 | N | 2,1 | I |  |  | the min flatness in exit section |
|  | Aver\_flatness\_exit\_2 | 出口平均平直度 | N | 2,1 | I |  |  | Average flatness of exit |
|  | A\_emul\_conce\_2 | A乳液浓度 | N | 3,2 | ％ |  |  | A tank emulsion concentration |
|  | L\_emul\_conce\_2 | L乳液浓度 | N | 3,2 | ％ |  |  | Ltank emulsion concentration |
|  | A\_Iron\_powder\_conce\_2 | A乳液铁粉含量 | N | 3 | g/l |  |  | Iron powder concentration in emultion of A tank |
|  | L\_Iron\_powder\_conce\_2 | L乳液铁粉含量 | N | 3 | g/l |  |  | Iron powder concentration in emultion of L tank |
|  | A\_Waste\_oil\_2 | A乳液杂油含量 | N | 2 | % |  |  | Waste oil percentage in A tank |
|  | L\_Waste\_oil\_2 | L乳液杂油含量 | N | 2 | % |  |  | Waste oil percentage in l tank |
|  | Emu\_TEMP\_1\_2 | 1架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 1 |
|  | Emu\_TEMP\_2\_2 | 2架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 2 |
|  | Emu\_TEMP\_3\_2 | 3架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 3 |
|  | Emu\_TEMP\_4\_2 | 4架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 4 |
|  | Emu\_TEMP\_5\_2 | 5架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 5 |
|  | Coil\_id\_3\_entry | 入口卷号3 | C | 14 |  |  |  | Coil id 3 of entry |
|  | Weight\_3 | *入口卷3重量* | N | 5 | Kg |  |  | Weight of Coil id 3 |
|  | Thick\_3 | *入口卷3厚度* | N | 4,3 | mm |  |  | Thickness of Coil id 3 |
|  | Width\_3 | *入口卷3宽度* | N | 5,1 | mm |  |  | Width of Coil id 3 |
|  | Weight\_flag\_3 | 入口卷3计重标志 | C | 1 |  |  |  | Weighing flag of Coil id 3 |
|  | Minus\_tolerance\_flag\_3 | 负公差轧制标志 | C | 1 |  |  |  | Minus tolerance flag3 |
|  | Begin\_time\_PCL\_3 | 酸洗开始时间 | DT |  |  |  |  | Beginning time of pickling |
|  | End\_time\_PCL\_3 | 酸洗结束时间 | DT |  |  |  |  | Ending time of pickling |
|  | Entry\_tension\_3 | 拉矫入口张力 | N | 3 | KN |  |  | Entry tension of tension leveller |
|  | Exit\_tension\_3 | 拉矫出口张力 | N | 3 | KN |  |  | Exit tension of tension leveller |
|  | Actual\_trim\_width\_3 | 实际剪边量 | N | 2 | mm |  |  | Actual side trimming width |
|  | Ave\_speed\_entry\_3 | 入口段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of entry section |
|  | Ave\_speed\_mid\_3 | 中段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of middle section |
|  | Ave\_speed\_exit\_3 | 出口段平均酸洗速度 | N | 5 | m/min |  |  | Average pickling speed of exit section |
|  | PCL\_speed\_head\_tail\_3 | 头尾酸洗速度 | N | 5 | m/min |  |  | Pickling speed of head and tail |
|  | acid\_concentrate\_GEN\_3 | 再生酸游离酸浓度 | N | 4,1 | g/l |  |  | Generative and disassociate acid concentrate |
|  | Fe2\_concentrate\_GEN\_3 | 再生酸亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of generative acid |
|  | Total\_acid\_concentrate\_GEN\_3 | 再生酸总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of generative acid |
|  | acid\_concentrate\_1\_3 | 1#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 1# tank |
|  | Fe2\_concentrate\_1\_3 | 1#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 1#tank |
|  | Total\_acid\_concentrate\_1\_3 | 1#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 1# tank |
|  | acid\_concentrate\_2\_3 | 2#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 2# tank |
|  | Fe2\_concentrate\_2\_3 | 2#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 2#tank |
|  | Total\_acid\_concentrate\_2\_3 | 2#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 2# tank |
|  | acid\_concentrate\_3\_3 | 3#槽游离酸浓度 | N | 4,1 | g/l |  |  | Dissociative acid concentrate of 3# tank |
|  | Fe2\_concentrate\_3\_3 | 3#槽亚铁浓度 | N | 4,1 | g/l |  |  | Fe2+ concentrate of 3#tank |
|  | Total\_acid\_concentrate\_3\_3 | 3#槽总酸值 | N | 4,1 | g/l |  |  | Total acid concentrate of 3# tank |
|  | Cond\_water\_rinS\_3 | 冲洗槽水电导率 | N | 2 | µ/cm |  |  | Conductance of water in rinsing tank |
|  | PH\_water\_rins\_3 | 冲洗槽水PH值 | N | 2,1 |  |  |  | PH value of water in rinsing tank |
|  | Temp\_water\_rins\_3 | 冲洗槽水温度 | N | 2 | ℃ |  |  | Temperature of water in rinsing tank |
|  | Bake\_temp\_3 | 烘干温度 | N | 3 | ℃ |  |  | Bakening temperature |
|  | Actu\_outside\_diameter\_3 | 实测钢卷外径 | N | 4 | mm |  |  | Actual outside diameter of coil |
|  | Tension\_entry\_loop\_3 | 入口活套张力 | N | 2 | KN |  |  | Tension of entry loop |
|  | Tension\_eXIT\_ loop\_1\_3 | 出口1＃活套张力 | N | 2 | KN |  |  | Tension of entry loop 1 |
|  | Tension\_eXIT\_loop\_2\_3 | 出口2＃活套张力 | N | 2 | KN |  |  | Tension of entry loop2 |
|  | Weld\_speed\_3 | 焊接速度 | N | 3 | % |  |  | Welding speed |
|  | Laser\_power\_3 | 激光功率 | N | 3 | % |  |  | Laser power |
|  | Threa\_fre\_3 | 门槛频率 | N | 2,1 | KHz |  |  | Threashold frequency |
|  | Laser\_work\_dist\_3 | 激光工作距离 | N | 3,2 | mm |  |  | Laser working distance |
|  | Pres\_laser\_head\_3 | 激光头压力 | N | 3,2 | Bar |  |  | Pressure of laser head |
|  | WORKTABLE\_TUNE\_3 | 工作台调整 | N | 3,2 | mm |  |  | WORKTABLE TUNE |
|  | Edge\_pressure\_3 | 带钢边部压力 | N | 3,2 | Bar |  |  | Edge pressure of strip |
|  | Skin\_pass\_pressure\_3 | 光整压力 | N | 3,2 | Bar |  |  | Skin pass pressure |
|  | Preheat\_power\_3 | 预热功率 | N | 3,2 | KW |  |  | Preheating power |
|  | Begin\_time\_roll\_3 | 轧制开始时间 | DT |  |  |  |  | Beginning time of rolling |
|  | End\_time\_roll\_3 | 轧制结束时间 | DT |  |  |  |  | Ending time of rolling |
|  | Actu\_len\_coil\_3 | 冷卷实测长度 | N | 4 | m |  |  | Actual length of cold coil |
|  | Setp\_thick\_exit\_3 | 轧机出口设定厚度 | N | 4，3 | mm |  |  | Setpoint thickness of plant exit |
|  | Rough\_upp\_work\_roll\_1\_3 | 1架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 1 stand |
|  | Rough\_LOW\_work\_roll\_1\_3 | 1架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 1 stand |
|  | Rough\_upp\_work\_roll\_2\_3 | 2架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 2 stand |
|  | Rough\_LOW\_work\_roll\_2\_3 | 2架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 2 stand |
|  | Rough\_upp\_work\_roll\_3\_3 | 3架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 3 stand |
|  | Rough\_LOW\_work\_roll\_3\_3 | 3架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 3 stand |
|  | Rough\_upp\_work\_roll\_4\_3 | 4架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 4 stand |
|  | Rough\_LOW\_work\_roll\_4\_3 | 4架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 4 stand |
|  | Rough\_upp\_work\_roll\_5\_3 | 5架上工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper work roll for 5 stand |
|  | Rough\_LOW\_work\_roll\_5\_3 | 5架下工作辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 5 stand |
|  | Rough\_upp\_back\_roll\_1\_3 | 1架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 1 stand |
|  | Rough\_LOW\_back\_roll\_1\_3 | 1架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 1 stand |
|  | Rough\_upp\_back\_roll\_2\_3 | 2架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 2 stand |
|  | Rough\_LOW\_back\_roll\_2\_3 | 2架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 2 stand |
|  | Rough\_upp\_back\_roll\_3\_3 | 3架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 3 stand |
|  | Rough\_LOW\_back\_roll\_3\_3 | 3架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 3 stand |
|  | Rough\_upp\_back\_roll\_4\_3 | 4架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 4 stand |
|  | Rough\_LOW\_back\_roll\_4\_3 | 4架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower back roll for 4 stand |
|  | Rough\_upp\_back\_roll\_5\_3 | 5架上支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of upper back roll for 5 stand |
|  | Rough\_LOW\_back\_roll\_5\_3 | 5架下支持辊粗糙度 | N | 4，3 | µm |  |  | Roughness of lower work roll for 5 stand |
|  | rough\_Upp\_Inter\_roll\_1\_3 | 1架上中间辊粗糙度 | N | 4，3 | µm |  |  | Upper Intermediate roll roughness for 1 stand |
|  | rough\_LOW\_Inter\_roll\_1\_3 | 1架下中间辊粗糙度 | N | 4，3 | µm |  |  | lower Intermediate roll roughness for 1 stand |
|  | rough\_Upp\_Inter\_roll\_5\_3 | 5架上中间辊粗糙度 | N | 4，3 | µm |  |  | Upper Intermediate roll roughness for 5 stand |
|  | rough\_LOW\_Inter\_roll\_5\_3 | 5架下中间辊粗糙度 | N | 4，3 | µm |  |  | lower Intermediate roll roughness for 5 stand |
|  | Diam\_upp\_work\_roll\_1\_3 | 1架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 1 stand |
|  | Diam\_LOW\_work\_roll\_1\_3 | 1架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 1 stand |
|  | Diam\_upp\_work\_roll\_2\_3 | 2架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 2 stand |
|  | Diam\_LOW\_work\_roll\_2\_3 | 2架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 2 stand |
|  | Diam\_upp\_work\_roll\_3\_3 | 3架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 3 stand |
|  | Diam\_LOW\_work\_roll\_3\_3 | 3架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 3 stand |
|  | Diam\_upp\_work\_roll\_4\_3 | 4架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 4 stand |
|  | Diam\_LOW\_work\_roll\_4\_3 | 4架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 4 stand |
|  | Diam\_upp\_work\_roll\_5\_3 | 5架上工作辊直径 | N | 4,1 | mm |  |  | Diameter of upper work roll for 5 stand |
|  | Diam\_LOW\_work\_roll\_5\_3 | 5架下工作辊直径 | N | 4,1 | mm |  |  | Diameter of lower work roll for 5 stand |
|  | Diam\_upp\_back\_roll\_1\_3 | 1架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 1 stand |
|  | Diam\_LOW\_back\_roll\_1\_3 | 1架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 1 stand |
|  | Diam\_upp\_back\_roll\_2\_3 | 2架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 2 stand |
|  | Diam\_LOW\_back\_roll\_2\_3 | 2架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 2 stand |
|  | Diam\_upp\_back\_roll\_3\_3 | 3架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 3 stand |
|  | Diam\_LOW\_back\_roll\_3\_3 | 3架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 3 stand |
|  | Diam\_upp\_back\_roll\_4\_3 | 4架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 4 stand |
|  | Diam\_LOW\_back\_roll\_4\_3 | 4架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 4 stand |
|  | Diam\_upp\_back\_roll\_5\_3 | 5架上支持辊直径 | N | 5,1 | mm |  |  | Diameter of upper back roll for 5 stand |
|  | Diam\_LOW\_back\_roll\_5\_3 | 5架下支持辊直径 | N | 5,1 | mm |  |  | Diameter of lower back roll for 5 stand |
|  | Diam\_upp\_nter\_roll\_1\_3 | 1架上中间辊直径 | N | 4,1 | mm |  |  | Diameter of upper intermediate roll for 1 stand |
|  | Diam\_LOW\_nter\_roll\_1\_3 | 1架下中间辊直径 | N | 4,1 | mm |  |  | Diameter of lower intermediate roll for 1 stand |
|  | Diam\_upp\_nter\_roll\_5\_3 | 5架上中间辊直径 | N | 4,1 | mm |  |  | Diameter of upper intermediate roll for 5 stand |
|  | Diam\_LOW\_nter\_roll\_5\_3 | 5架下中间辊直径 | N | 4,1 | mm |  |  | Diameter of lower intermediate roll for 5 stand |
|  | tons\_work\_roll\_1\_3 | 1架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 1 |
|  | tons\_back\_roll\_1\_3 | 1架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 1 |
|  | tons\_work\_roll\_2\_3 | 2架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 2 |
|  | tons\_back\_roll\_2\_3 | 2架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 2 |
|  | tons\_work\_roll\_3\_3 | 3架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 3 |
|  | tons\_back\_roll\_3\_3 | 3架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 3 |
|  | tons\_work\_roll\_4\_3 | 4架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 4 |
|  | tons\_back\_roll\_4\_3 | 4架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 4 |
|  | tons\_work\_roll\_5\_3 | 5架工作辊轧制吨数 | N | 4 | T |  |  | Rolling tons of work roll in stand 5 |
|  | tons\_back\_roll\_5\_3 | 5架支持辊轧制吨数 | N | 5 | T |  |  | Rolling tons of backup roll in stand 5 |
|  | tons\_inter\_roll\_1\_3 | 1架中间辊轧制吨数 | N | 4 | T |  |  | Rolling tons of intermediate roll in stand 1 |
|  | tons\_inter\_roll\_5\_3 | 5架中间辊轧制吨数 | N | 4 | T |  |  | Rolling tons of intermediate roll in stand 5 |
|  | Exit\_ave\_speed\_1\_3 | 1架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 1 |
|  | Exit\_ave\_speed\_2\_3 | 2架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 2 |
|  | Exit\_ave\_speed\_3\_3 | 3架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 3 |
|  | Exit\_ave\_speed\_4\_3 | 4架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 4 |
|  | Exit\_ave\_speed\_5\_3 | 5架出口平均速度 | N | 4 | m/min |  |  | Exit ave speed of stand 5 |
|  | Actu\_ave\_tension\_bef\_1\_3 | 1架前实际平均张力 | N | 4 | KN |  |  | Actual ave tension before stand 1 |
|  | Actu\_ave\_tension\_bet\_1\_2\_3 | 1－2架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 1 and 2 |
|  | Actu\_ave\_tension\_bet\_2\_3\_3 | 2－3架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 2 and 3 |
|  | Actu\_ave\_tension\_bet\_3\_4\_3 | 3－4架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 3 and 4 |
|  | Actu\_ave\_tension\_bet\_4\_5\_3 | 4－5架实际平均张力 | N | 4 | KN |  |  | Actual ave tension between 4 and 5 |
|  | Actu\_ave\_tension\_coiler\_3 | 卷取实际平均张力 | N | 4 | KN |  |  | Actual ave tension of coiler |
|  | std\_tension\_bef\_1\_3 | 1架前张力差 | N | 4，1 | KN |  |  | std tension before stand 1 |
|  | std\_tension\_bet\_1\_2\_3 | 1－2架张力差 | N | 4，1 | KN |  |  | std tension between 1 and 2 |
|  | std\_tension\_bet\_2\_3\_3 | 2－3架张力差 | N | 4，1 | KN |  |  | std tension between 2 and 3 |
|  | std\_tension\_bet\_3\_4\_3 | 3－4架张力差 | N | 4，1 | KN |  |  | std tension between 3 and 4 |
|  | std\_tension\_bet\_4\_5\_3 | 4－5架张力差 | N | 4，1 | KN |  |  | std tension between 4 and 5 |
|  | std\_tension\_coiler\_3 | 卷取张力差 | N | 4，1 | KN |  |  | std tension of coiler |
|  | Work\_roll\_bend\_1\_3 | 1架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | Work\_roll\_bend\_2\_3 | 2架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 2 |
|  | Work\_roll\_bend\_3\_3 | 3架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 3 |
|  | Work\_roll\_bend\_4\_3 | 4架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 4 |
|  | Work\_roll\_bend\_5\_3 | 5架工作辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 5 |
|  | INTER\_roll\_bend\_1\_3 | 1架中间辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | INTER\_roll\_bend\_5\_3 | 5架中间辊弯辊 | N | 3 | % |  |  | Work roll bending of stand 1 |
|  | Inter\_roll\_shift\_1\_3 | 1架中间辊横移量 | N | 3 | mm |  |  | Intermediate roll shift in stand 1 |
|  | Inter\_roll\_shift\_5\_3 | 5架中间辊横移量 | N | 3 | mm |  |  | Intermediate roll shift in stand 5 |
|  | Aver\_force\_1\_3 | 1架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 1 |
|  | Aver\_force\_2\_3 | 2架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 2 |
|  | Aver\_force\_3\_3 | 3架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 3 |
|  | Aver\_force\_4\_3 | 4架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 4 |
|  | Aver\_force\_5\_3 | 5架平均轧制力 | N | 3,1 | MN |  |  | Average rolling force of stand 5 |
|  | std\_force\_1\_3 | 1架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 1 |
|  | std\_force\_2\_3 | 2架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 2 |
|  | std\_force\_3\_3 | 3架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 3 |
|  | std\_force\_4\_3 | 4架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 4 |
|  | std\_force\_5\_3 | 5架轧制力偏差 | N | 4,2 | MN |  |  | std rolling force of stand 5 |
|  | TiltE\_1\_3 | 1架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 1 |
|  | TiltE\_2\_3 | 2架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 2 |
|  | TiltE\_3\_3 | 3架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 3 |
|  | TiltE\_4\_3 | 4架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 4 |
|  | TiltE\_5\_3 | 5架倾斜 | N | 4,2 | mm |  |  | Tilting of stand 5 |
|  | Roll\_gap\_1\_3 | 1架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 1 |
|  | Roll\_gap\_2\_3 | 2架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 2 |
|  | Roll\_gap\_3\_3 | 3架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 3 |
|  | Roll\_gap\_4\_3 | 4架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 4 |
|  | Roll\_gap\_5\_3 | 5架辊缝 | N | 5,3 | mm |  |  | Roll gap of stand 5 |
|  | thick\_beFore\_1\_3 | 1架前厚度 | N | 4,3 | mm |  |  | thickness beFore stand 1 |
|  | thick\_after\_1\_3 | 1架后厚度 | N | 4,3 | mm |  |  | thickness after stand 1 |
|  | thick\_beFore\_5\_3 | 5架前厚度 | N | 4,3 | mm |  |  | thickness beFore stand 5 |
|  | thick\_after\_5\_3 | 5架后厚度 | N | 4,3 | mm |  |  | thickness after stand 5 |
|  | std\_thick\_BEFORE\_1\_3 | 1架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness BEFORE stand 1 |
|  | std\_thick\_after\_1\_3 | 1架后厚度偏差 | N | 4,3 | mm |  |  | std of thickness after stand 1 |
|  | std\_thick\_BEFORE\_5\_3 | 5架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness BEFORE stand 5 |
|  | std\_thick\_after\_5\_3 | 5架前厚度偏差 | N | 4,3 | mm |  |  | std of thickness after stand 5 |
|  | Thick\_min\_exit\_3 | 出口最小厚度 | N | 4,3 | mm |  |  | min Thickness of exit section |
|  | Thick\_max\_exit\_3 | 出口最大厚度 | N | 4,3 | mm |  |  | max Thickness of exit section |
|  | pos\_Thick\_max\_exit\_3 | 出口最大厚度位置 | N | 4 | m |  |  | the position of max thickness in exit section |
|  | flat\_max\_exit\_3 | 出口最大平直度 | N | 2,1 | I |  |  | the max flatness in exit section |
|  | flat\_min\_exit\_3 | 出口最小平直度 | N | 2,1 | I |  |  | the min flatness in exit section |
|  | Aver\_flatness\_exit\_3 | 出口平均平直度 | N | 2,1 | I |  |  | Average flatness of exit |
|  | A\_emul\_conce\_3 | A乳液浓度 | N | 3,2 | ％ |  |  | A tank emulsion concentration |
|  | L\_emul\_conce\_3 | L乳液浓度 | N | 3,2 | ％ |  |  | Ltank emulsion concentration |
|  | A\_Iron\_powder\_conce\_3 | A乳液铁粉含量 | N | 3 | g/l |  |  | Iron powder concentration in emultion of A tank |
|  | L\_Iron\_powder\_conce\_3 | L乳液铁粉含量 | N | 3 | g/l |  |  | Iron powder concentration in emultion of L tank |
|  | A\_Waste\_oil\_3 | A乳液杂油含量 | N | 2 | % |  |  | Waste oil percentage in A tank |
|  | L\_Waste\_oil\_3 | L乳液杂油含量 | N | 2 | % |  |  | Waste oil percentage in l tank |
|  | Emu\_TEMP\_1\_3 | 1架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 1 |
|  | Emu\_TEMP\_2\_3 | 2架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 2 |
|  | Emu\_TEMP\_3\_3 | 3架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 3 |
|  | Emu\_TEMP\_4\_3 | 4架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 4 |
|  | Emu\_TEMP\_5\_3 | 5架乳液温度 | N | 2 | ℃ |  |  | Emulsion concentration in stand 5 |

### 2.12生产实绩应答:PA04

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由电文P204触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | PA04 |
|  | COIL\_ID | 钢卷号 | C | 14 |  |  |  |  |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK #0 NOT OK |

### 2.13停机实绩:P205

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由L2主动上传（每班一次）** | **PA05** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P205 |
|  | NUM\_DOWNTIME | 停机次数 | N | 2 |  |  |  | Number of disturbances(maximum 20) |
|  | ***{begin of array[20]*** |  |  |  |  |  |  | 20th |
|  | SHIFT | 班次 | C | 1 |  |  |  | SHIFT(1,2,3-夜,白,中)  1=night shift; 2=morning shift; 3=evening shift |
|  | CREW | 班组 | C | 1 |  |  |  | GROUP(A,B,C,D-甲,乙,丙,丁) |
|  | START\_TIME | 开始时间 | C | 14 |  |  |  |  |
|  | END\_TIME | 结束时间 | C | 14 |  |  |  |  |
|  | REASON\_CODE | 停机原因代码 | C | 6 |  |  |  |  |
|  | INFO\_TEXT | 停机原因 | C | 30 |  |  |  |  |
|  | ***}end of array*** |  |  |  |  |  |  |  |

### 2.14停机实绩应答:PA05

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由电文P205触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | PA05 |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK #0 NOT OK |

### 2.15轧辊数据请求:P206

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **L2主动申请** | **P306** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P201 |
|  | ROLL\_TYPE | 辊型 | C | 3 |  |  |  | WKR=working;IMR=intermediate roll,BUR=backup roll |
|  | STAND\_NO | 机架号 | N | 1 |  |  |  | Stand number(1 to 5) |
|  | UPR\_ROLL\_ID | 上辊号 | C | 8 |  |  |  |  |
|  | LWR\_ROLL\_ID | 下辊号 | C | 8 |  |  |  |  |

### 2.16轧辊数据(同时上下辊): P306

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由电文P206触发** | **P06A** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P306 |
|  | ROLL\_TYPE | 辊型 | C | 3 |  |  |  | WKR/IMR/BUR |
|  | STAND\_NO | 机架号 | N | 1 |  |  |  | 1,2,3,4,5 |
|  | UPR\_ROLL\_ID | 上辊号 | C | 8 |  |  |  |  |
|  | UPR\_ROLL\_DIAMETER | 上辊径 | N | 6 | 0.01mm |  |  |  |
|  | UPR\_CROWN | 上辊凸度 | N | 4 | 0.001μm |  |  |  |
|  | UPR\_ROUGHNESS | 上辊粗糙度 | N | 3 | 0.01μm |  |  |  |
|  | UPR\_A1 | 预留字段1 | N | 4 |  |  |  |  |
|  | UPR\_A2 | 预留字段2 | N | 4 |  |  |  |  |
|  | UPR\_A3 | 预留字段3 | N | 4 |  |  |  |  |
|  | UPR\_A4 | 预留字段4 | N | 4 |  |  |  |  |
|  | UPR\_A5 | 预留字段5 | N | 4 |  |  |  |  |
|  | UPR\_ROLL\_PROP\_CLASS | 上辊轧辊材质等级 | N | 4 |  |  |  |  |
|  | LWR\_ROLL\_ID | 下辊号 | C | 8 |  |  |  |  |
|  | LWR\_ROLL\_DIAMETER | 下辊径 | N | 6 | 0.01mm |  |  |  |
|  | LWR\_CROWN | 下辊凸度 | N | 4 | 0.001μm |  |  |  |
|  | LWR\_ROUGHNESS | 下辊粗糙度 | N | 3 | 0.01μm |  |  |  |
|  | LWR\_A1 | 预留字段1 | N | 4 |  |  |  |  |
|  | LWR\_A2 | 预留字段2 | N | 4 |  |  |  |  |
|  | LWR\_A3 | 预留字段3 | N | 4 |  |  |  |  |
|  | LWR\_A4 | 预留字段4 | N | 4 |  |  |  |  |
|  | LWR\_A5 | 预留字段5 | N | 4 |  |  |  |  |
|  | LWR\_ROLL\_PROP\_CLASS | 下辊轧辊材质等级 | N | 4 |  |  |  |  |

### 2.17轧辊数据应答:P06A

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由电文P306触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P06A |
|  | UPR\_ROLL\_ID | 上辊号 | C | 8 |  |  |  | Roll id of Upper Roll |
|  | LWR\_ROLL\_ID | 下辊号 | C | 8 |  |  |  | Roll ID of lower Roll |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK #0 NOT OK |

### 2.18换辊实绩(同时上下辊): P207

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由L2主动上传** | **PA07** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P207 |
|  | SHIFT | 班次 | C | 1 |  |  |  | SHIFT(1,2,3-夜,白,中)  1=night shift; 2=morning shift; 3=evening shift |
|  | CREW | 班组 | C | 1 |  |  |  | GROUP(A,B,C,D-甲,乙,丙,丁) |
|  | REASON\_CODE | 换辊原因 | C | 4 |  |  |  | Reason Code for Changing Rolls |
|  | STAND\_NO | 机架号 | N | 1 |  |  |  | Stand number 1,2,3,4,5 |
|  | ROLL\_TYPE | 辊型 | C | 3 |  |  |  | Type of roll:WKR,IMR,BUR |
|  | MOUNT\_TIME | 装辊时间 | C | 14 |  |  |  | Roll mounting time |
|  | DISMOUNT\_TIME | 卸辊时间 | C | 14 |  |  |  | Roll dismounting time |
|  | UPR\_ROLL\_ID | 上辊号 | C | 8 |  |  |  | Upper Roll ID |
|  | UPR\_ROLL\_LENGTH | 上辊轧制长度 | N | 12 | m |  |  | Upper Rolled length |
|  | UPR\_ROLL\_TONS | 上辊轧制重量 | N | 12 | t |  |  | Upper rolled tons |
|  | LWR\_ROLL\_ID | 下辊号 | C | 8 |  |  |  | Lower roll ID |
|  | LWR\_ROLL\_LENGTH | 下辊轧制长度 | N | 12 | m |  |  | Lower rolled length |
|  | LWR\_ROLL\_TONS | 下辊轧制重量 | N | 12 | t |  |  | Lower rolled tons |

### 2.19换辊实绩应答:PA07

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由电文P207触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | PA07 |
|  | UPR\_ROLL\_ID | 上辊号 | C | 8 |  |  |  |  |
|  | LWR\_ROLL\_ID | 下辊号 | C | 8 |  |  |  |  |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK #0 NOT OK |

### 2.20机组拒绝卷:P208

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由L2主动上传** | **PA08** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P208 |
|  | EN\_COIL\_ID | 钢卷号 | C | 14 |  |  |  | 入口冷卷号 |
|  | WEIGHT\_remain | 重量 | N | 5 |  |  |  | In case the strip needs to be separated in the entry,this is the Weight of rest which remains in the plant.If the whole coil is rejected ,this value is 0. |
|  | LENGTH\_REMAIN | 剩余长度 | N | 5 |  |  |  |  |
|  | SHIFT | 班次 | C | 1 |  |  |  | SHIFT(1,2,3-夜,白,中)  1=night shift; 2=morning shift; 3=evening shift |
|  | CREW | 班组 | C | 1 |  |  |  | GROUP(A,B,C,D-甲,乙,丙,丁) |
|  | REJECT\_CODE | 拒绝原因代码 | C | 6 |  |  |  |  |
|  | REJECT \_REASON | 拒绝原因 | C | 20 |  |  |  | Additional clear-text entered by the operator. |
|  | REJECT \_TIME | 拒绝时间 | C | 14 |  |  |  | YYYYMMDDHHMISS |

### 2.21拒绝卷应答:PA08

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由电文P208触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | PA08 |
|  | COIL\_ID | 钢卷号 | C | 14 |  |  |  | coil id of the coil which is withdrawed. |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK #0 NOT OK |

### 2.22钢卷封锁:P209

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L2** | **L3** | **由L2主动上传** | **PA09** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | P209 |
|  | COIL\_ID | 钢卷号 | C | 14 |  |  |  |  |
|  | LOCK\_CODE | 封锁代码 | C | 6 |  |  |  |  |
|  | LOCK\_REASON | 封锁原因 | C | 20 |  |  |  |  |
|  | LOCK\_TIME | 封锁时间 | C | 14 |  |  |  | YYYYMMDDHHMISS |

### 2.23钢卷封锁应答:PA09

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **由电文P209触发** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
|  | TELE\_ID | 电文号 | C | 4 |  |  |  | PA09 |
|  | COIL\_ID | 钢卷号 | C | 14 |  |  |  |  |
|  | ACK | 应答标志 | N | 1 |  |  |  | =0 OK #0 NOT OK |

### 2.24三级检修:P399

|  |  |  |  |
| --- | --- | --- | --- |
| 传送方 | 接受方 | 触发条件 | 是否需应答 |
| **L3** | **L2** | **当L3决定检修时，多下钢卷，L2不上传实绩** | **N** |

| **№** | **字段名** | | **存储**  **类型** | **显示**  **长度** | **单位** | **值域范围** | | **说明** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **英文** | **中文** | **下限** | **上限** |  |
| 1 | TELE\_ID | 电文号 | C | 4 |  |  |  | P399 |
| 2 | STATUS |  | N | 1 |  |  |  | 1=start maintenance at DATE\_TIME  2=no scheduled mainenance |
| 3 | DATE\_TIME |  | C | 14 |  |  |  |  |