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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 中国重型汽车集团有限公司  （济南商用车制造部  车身部  涂装现场分部保险杠涂装线） | | | | | | 工时定额明细表 | | | | | | | | | | | | | | | | | 产品（零部件）图号 | | | | | | | | / | | | | SC41860002 | | | | |
| 产品（零部件）名称 | | | | | | | | 金属保险杠总成 | | | | 共4 页 | | | | 第1 页 |
| 总工时 | | | 425.31 | | | | 生产线节拍 | | | 10.66 | | | | | | | | | 生产线平衡率 | | | | | | | | | | | 97.2% | | | | | | | | | |
| 工序号 | | | 工序名称 | | | | 设备型号、名称 | | | | | | 设备  数量 | | | 定员 | | | 辅助时间  min | | | 基本时间  min | | | | 工序工时  min | | | | | | 工序节拍  min/挂 | | | | 备注 | | | |
| TZ001 | | | 保险杠卸货 | | | | 叉车 | | | | | | 1 | | | 1 | | | 2 | | | 2.5 | | | | 4.5 | | | | | | 4.5 | | | |  | | | |
| TZ002 | | | 白皮检查 | | | | / | | | | | | / | | | 1 | | | 0.5 | | | 4.65 | | | | 5.15 | | | | | | 5.15 | | | |  | | | |
| TZ005 | | | 挂件、转运 | | | | 液压车 | | | | | | 1 | | | 3 | | | 3.99 | | | 12 | | | | 15.99 | | | | | | 5.33 | | | |  | | | |
| TZ010 | | | 吊转工件 | | | | 电动葫芦、液压车 | | | | | | 2 | | | 1 | | | 1.5 | | | 3 | | | | 4.5 | | | | | | 4.5 | | | |  | | | |
| TZ020 | | | 擦净 | | | | 蒸汽除油设备 | | | | | | 2 | | | 2 | | | 2 | | | 8 | | | | 10 | | | | | | 5 | | | |  | | | |
| TZ030 | | | 上件 | | | | 吊笼 | | | | | | 1 | | | 3 | | | 1.5 | | | 12 | | | | 13.5 | | | | | | 4.5 | | | |  | | | |
| TZ210 | | | 下件 | | | | 吊笼、滑橇输送系统 | | | | | | 2 | | | 3 | | | 1.5 | | | 11 | | | | 12.5 | | | | | | 4.17 | | | |  | | | |
| TZ215 | | | 加料 | | | | 加料设备 | | | | | | 1 | | | 1 | | | 0.5 | | | 4.5 | | | | 5 | | | | | | 5 | | | |  | | | |
| TZ216 | | | 电泳整线操作 | | | | 电泳线、纯水系统、锅炉 | | | | | | 3 | | | 1 | | | 3 | | | 2 | | | | 5 | | | | | | 5 | | | |  | | | |
| TZ217 | | | 化验 | | | | 化验室 | | | | | | 1 | | | 1 | | | 1.33 | | | 4 | | | | 5.33 | | | | | | 5.33 | | | |  | | | |
| TZ230 | | | 转线（卸件、工装转换、挂件） | | | | 电动葫芦、液压车、滑橇输送系统 | | | | | | 1 | | | 6 | | | 9 | | | 21 | | | | 30 | | | | | | 5 | | | |  | | | |
| TZ250 | | | 电泳质量检查 | | | | 滑橇输送系统、检测仪器 | | | | | | 2 | | | 1 | | | 1 | | | 4.2 | | | | 5.2 | | | | | | 5.2 | | | |  | | | |
| TZ260 | | | 刮腻子 | | | | 腻子刮板 | | | | | | 1 | | | 2 | | | 2 | | | 8.5 | | | | 10.5 | | | | | | 5.25 | | | | 外包 | | | |
| TZ270 | | | 面漆排产组织及上线记录 | | | | / | | | | | | / | | | 1 | | | 2 | | | 2.5 | | | | 4.5 | | | | | | 4.5 | | | |  | | | |
| 中国重型汽车集团有限公司  （济南商用车制造部  车身部  涂装现场分部保险杠涂装线） | | | | | 工时定额明细表 | | | | | | | | | | | | | | | | | 产品（零部件）图号 | | | | | | / | | | | | | | SC41860002 | | | | |
| 产品（零部件）名称 | | | | | | 金属保险杠总成 | | | | | | | 共4 页 | | | 第2 页 | |
| 总工时 | | 425.31 | | | 生产线节拍 | | | | 10.66 | | | | | | | | | | 生产线平衡率 | | | | | | | | | | 97.2% | | | | | | | | | | |
| 工序号 | | 工序名称 | | | 设备型号、名称 | | | | | | | 设备  数量 | | | 定员 | | | | 辅助时间  min | | 基本时间  min | | | | 工序工时  min | | | | | | | 工序节拍  min/挂 | | 备注 | | | | | |
| TZ280-1 | | | 电泳及腻子打磨 | | 打磨机 | | | | | | | 1 | | | 4 | | | | 2 | | 20 | | | | 22 | | | | | | | 5.5 | | 外包 | | | | | |
| TZ280-2 | | | 吹尘及擦净 | | 吹尘枪 | | | | | | | 1 | | | 2 | | | | 1 | | 9 | | | | 10 | | | | | | | 5 | | 外包 | | | | | |
| TZ315 | | | 质量门 | | 滑橇输送系统 | | | | | | | 1 | | | 2 | | | | 2 | | 8 | | | | 10 | | | | | | | 5 | |  | | | | | |
| TZ320、TZ390 | | 中涂前擦净、面漆前擦净 | | | 滑橇输送系统、升降机、擦净室 | | | | | | | 3 | | | 2 | | | | 3 | | 17 | | | | 20 | | | | | | | 10 | | 外包 | | | | | |
| TZ325、TZ395 | | 喷点补电泳、点补中涂漆 | | | 喷漆室、静电喷枪、供漆系统、送排风系统 | | | | | | | 4 | | | 1 | | | | 2 | | 8 | | | | 10 | | | | | | | 10 | | 外包 | | | | | |
| TZ340-1、TZ410 | | 人工中涂、人工色漆 | | | 喷漆室、静电喷枪、供漆系统、送排风系统 | | | | | | | 4 | | | 2 | | | | 3 | | 18.32 | | | | 21.32 | | | | | | | 10.66 | | 外包 | | | | | |
| TZ340-2 | | 喷中涂漆(机器人操控) | | | 喷漆室、机器人喷涂系统、供漆系统、送排风系统 | | | | | | | 4 | | | 1 | | | | 0.5 | | 4.83 | | | | 5.33 | | | | | | | 5.33 | |  | | | | | |
| TZ340-3、TZ435 | | 人工补喷中涂、人工补喷清漆 | | | 喷漆室、静电喷枪、供漆系统、送排风系统 | | | | | | | 4 | | | 2 | | | | 3 | | 18.32 | | | | 21.32 | | | | | | | 10.66 | | 外包 | | | | | |
| TZ370 | | 中涂检查 | | | 膜厚仪、漆膜划格仪 | | | | | | | 3 | | | 1 | | | | 2 | | 7 | | | | 9 | | | | | | | 9 | |  | | | | | |
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| 产品（零部件）名称 | | | | | | 金属保险杠总成 | | | | | | | 共4页 | | | 第3 页 | |
| 总工时 | | 425.31 | | | 生产线节拍 | | | | 10.66 | | | | | | | | | | 生产线平衡率 | | | | | | | | | | 97.2% | | | | | | | | | | |
| 工序号 | | 工序名称 | | | 设备型号、名称 | | | | | | | 设备  数量 | | | 定员 | | | | 辅助时间  min | | 基本时间  min | | | | 工序工时  min | | | | | | | 工序节拍  min/挂 | | 备注 | | | | | |
| TZ380、TZ500 | | | 中涂打磨吹尘、点修 | | 打磨机、吹尘枪、送排风系统 | | | | | | | 4 | | | 4 | | | | 7 | | 25 | | | | 32 | | | | | | | 8 | | 外包 | | | | | |
| TZ385 | | | 面漆转线 | | 滑橇输送系统 | | | | | | | 1 | | | 1 | | | | 2 | | 2.5 | | | | 4.5 | | | | | | | 4.5 | |  | | | | | |
| TZ420 | | 喷金属闪光底漆（实色漆）（机器人操控） | | | 喷漆室、机器人喷涂系统、供漆系统、送排风系统 | | | | | | | 4 | | | 1 | | | | 0.5 | | 4.83 | | | | 5.33 | | | | | | | 5.33 | |  | | | | | |
| TZ430 | | 喷罩光清漆(机器人操控) | | | 喷漆室、机器人喷涂系统、供漆系统、送排风系统 | | | | | | | 4 | | | 1 | | | | 0.5 | | 4.83 | | | | 5.33 | | | | | | | 5.33 | |  | | | | | |
| TZ470 | | 质量门 | | | 色差仪、桔皮仪、光泽仪、膜厚仪、漆膜划格仪 | | | | | | | 5 | | | 2 | | | | 2 | | 8 | | | | 10 | | | | | | | 5 | |  | | | | | |
| TZ480 | | 精修（面漆质量检查及颗粒抛光） | | | 抛光机 | | | | | | | 1 | | | 2 | | | | 2 | | 8 | | | | 10 | | | | | | | 5 | | 外包 | | | | | |
| TZ510 | | 检验 | | | 点修室、滑橇输送系统 | | | | | | | 2 | | | 2 | | | | 2 | | 8.5 | | | | 10.5 | | | | | | | 5.25 | |  | | | | | |
| TZ530 | | 卸件 | | | 电枪、滑橇输送系统、悬臂吊具 | | | | | | | 3 | | | 4 | | | | 8 | | 10 | | | | 18 | | | | | | | 4.5 | |  | | | | | |
| TZ540 | | 下线 | | | 滑橇输送系统 | | | | | | | 1 | | | 2 | | | | 2 | | 8 | | | | 10 | | | | | | | 5 | |  | | | | | |
| TZ545 | | 发交 | | | / | | | | | | | / | | | 1 | | | | 2.5 | | 2.5 | | | | 5 | | | | | | | 5 | |  | | | | | |
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| 总工时 | | 425.31 | | | 生产线节拍 | | | | 10.66 | | | | | | | | | | 生产线平衡率 | | | | | | | | | | 97.2% | | | | | | | | | | |
| 工序号 | | 工序名称 | | | 设备型号、名称 | | | | | | | 设备  数量 | | | 定员 | | | | 辅助时间  min | | 基本时间  min | | | | 工序工时  min | | | | | | | 工序节拍  min/挂 | | 备注 | | | | | |
| TZ550 | | 面漆保险杠转运（辅助） | | | 叉车 | | | | | | | 1 | | | 1 | | | | 1 | | 4 | | | | 5 | | | | | | | 5 | | 外包 | | | | | |
| TZ560 | | 调漆过程 | | | 输调漆系统、管中管温控系统、废溶剂回收系统 | | | | | | | 3 | | | 3 | | | | 3 | | 12 | | | | 15.00 | | | | | | | 5.00 | |  | | | | | |
| TZ580 | | 组合式空调处理机组 | | | 组合式空调处理机组、纯水系统 | | | | | | | 1 | | | 3 | | | | 2.4 | | 12.6 | | | | 15.00 | | | | | | | 5.00 | |  | | | | | |
| TZ590 | | 废气处理设备操控维保 | | | 排风系统、废气处理系统 | | | | | | | 2 | | | 1 | | | | 2.5 | | 2.25 | | | | 4.75 | | | | | | | 4.75 | |  | | | | | |
| TZ600 | | 总装上线前抛光服务（辅助） | | | 抛光机 | | | | | | | 1 | | | 1 | | | | 1.0 | | 3.5 | | | | 4.50 | | | | | | | 4.50 | | 外包 | | | | | |
| TZ610 | | 调试服务（辅助） | | | 喷枪、抛光机、打磨机、烤灯 | | | | | | | 4 | | | 2 | | | | 3 | | 7 | | | | 10 | | | | | | | 10 | | 外包 | | | | | |
| / | | 生产组织 | | | / | | | | | | | / | | | 1 | | | | / | | / | | | | / | | | | | | | / | | 外包 | | | | | |
|  |  | | |  |  | | |  |  | |  | | |  | | |  |  | | 编制(日期) | | | | 审核(日期) | | | 批准(日期) | | | | | | 标准化(日期) | | | | 会签(日期) | | |
|  |  | | |  |  | | |  |  | |  | | |  | | |  |  | |  | | | |  | | |  | | | | | |  | | | |  | | |
| 标记 | 处数 | | | 更改文件 | 签字 | | | 日期 | 标记 | | 处数 | | | 更改文件 | | | 签字 | 日期 | |

工时定额明细表的填写规则。

|  |  |
| --- | --- |
| 空格号 | 填写内容 |
| （1） | 工序号。 |
| （2） | 工序名称。 |
| （3） | 设备型号名称。 |
| （4） | 设备数量，用阿拉伯数字1、2、3表示。 |
| （5） | 所需要的作业人数。 |
| （6） | 装卸工件、开停机床时间。 |
| （7） | 直接改变生产对象的尺寸、形状、相对位置以及表面状态、进退刀、测量工件（包括设备自动测量、人工在线测量）等工艺过程所消耗的时间。 |
| （8） | 是指工件在一台设备从上料加工/装配到完成下料时间。对于批量生产为辅助时间和基本时间之和。 |
| （9） | 是指流水线上某道工序相邻两件同样制品投入或出产的间隔时间。工序节拍的大小不仅与该工序的单件时间定额有关,还与同时执行该工序的设备或工作地的数目有关。对单台设备节拍=工序工时，对N台设备单件节拍=工序工时/N。 |
| （10） | 未包含，需要明确的其他内容 |
| （11） | 各工序的“工序节拍”之和 |
| （12） | 最长的“工序节拍” |
| （13） | 总工时/（生产线节拍×工序数量） |