**ASSESSMENT NBM, RULA, DAN REBA**

1. **Berat Beban Pekerja**

Berat beban pekerja merupakan berat benda yang diangkat pekerja saat melakukan pekerjaannya yaitu meliputi peralatan kerja dan bahan kerja seperti paku dan kayu. Berikut merupakan data yang telah dihimpun oleh peneliti:

Tabel 1 Berat Beban Kerja

|  |  |  |
| --- | --- | --- |
| **Stasiun Kerja** | **Nama Alat** | **Berat (Kg)** |
| Pemotongan | Kayu | 0.8 |
|  | Triplek | 0.2 |
| Perakitan | Paku | 0.1 |
|  | Kayu | 0.8 |
|  | Komponen besi | 2 |
|  | Palu | 0.5 |
| Pengangkutan | Kerangka | 10 |

1. **Assessment NBM**

Data kuesioner merupakan data yang di dapat dari hasil penyebaran kuesioner terhadap pekerja bagian produksi kerangka yang terdiri atas 8 orang pekerja dan terbagi atas 3 gerakan kerja yaitu pemotongan, perakitan, dan pengangkutan.. Kuesioner terdiri atas beberapa poin yang berisi tentang beberapa hal keluhan pekerja pada pekerjaannya seperti keluhan otot, rasa sakit, nyeri, dan pegal. Berikut merupakan hasil kuesioner *Nordic body map* yang telah dilakukan:

Tabel 2 Analisis *Nordic Body Map* Pemotongan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | *Location* | *Level of Complain* | | | | |
| 1 | 2 | 3 | 4 | *Score* |
| 0 | *Upper Neck*/Leher atas |  |  |  |  | 3 |
| 1 | *Lower Neck*/Leher Bawah |  |  |  |  | 1 |
| 2 | *Left shoulder*/Bahu Kiri |  |  |  |  | 1 |
| 3 | *Right shoulder*/Bahu Kanan |  |  |  |  | 1 |
| 4 | *Left upper Arm*/Lengan Kiri Atas |  |  |  |  | 2 |
| 5 | *Back*/Punggung |  |  |  |  | 3 |
| 6 | *Right Upper Arm*/Lengan Kanan Atas |  |  |  |  | 2 |
| 7 | *Waist*/Pinggang |  |  |  |  | 3 |
| 8 | *Buttock*/Pantat |  |  |  |  | 1 |
| 9 | *Bottom*/Bagian Bawah Pantat |  |  |  |  | 1 |
| 10 | *Left elbow*/Siku Kiri |  |  |  |  | 1 |
| 11 | *Right elbow*/Siku Kanan |  |  |  |  | 1 |
| 12 | *Left Lower Arm*/Lengan Kiri Bawah |  |  |  |  | 1 |
| 13 | *Right Lower Arm*/Lengan Kanan Bawah |  |  |  |  | 1 |
| 14 | *Left Wrist*/Pergelangan Tangan Kiri |  |  |  |  | 2 |
| 15 | *Right Wrist*/Pergelangan Tangan Kanan |  |  |  |  | 1 |
| 16 | *Left Hand/Tangan Kiri* |  |  |  |  | 2 |
| 17 | *Right Hand*/Tangan Kanan |  |  |  |  | 2 |
| 18 | *Left Thigh*/Paha Kiri |  |  |  |  | 1 |
| 19 | *Right Thigh*/Paha Kanan |  |  |  |  | 2 |
| 20 | *Left Kneel*/Lutut Kiri |  |  |  |  | 3 |
| 21 | *Right Kneel*/Lutut Kanan |  |  |  |  | 3 |
| 22 | *Left Calf*/Betis Kiri |  |  |  |  | 2 |
| 23 | *Right Calf*/Betis Kanan |  |  |  |  | 2 |
| 24 | *Left Ankle*/Pergelangan Kaki Kiri |  |  |  |  | 1 |
| 25 | *Right Ankle*/Pergelangan Kaki Kanan |  |  |  |  | 1 |
| 26 | *Left Foot*/Kaki Kiri |  |  |  |  | 1 |
| 27 | *Right Foot*/Kaki Kanan |  |  |  |  | 1 |
| Jumlah | | 15 | 8 | 5 | 0 | 46 |

Tabel 3 Analisis *Nordic Body Map* Pengangkutan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | *Location* | *Level of Complain* | | | | |
| 1 | 2 | 3 | 4 | *Score* |
| 0 | *Upper Neck*/Leher atas |  |  |  |  | 4 |
| 1 | *Lower Neck*/Leher Bawah |  |  |  |  | 4 |
| 2 | *Left shoulder*/Bahu Kiri |  |  |  |  | 3 |
| 3 | *Right shoulder*/Bahu Kanan |  |  |  |  | 3 |
| 4 | *Left upper Arm*/Lengan Kiri Atas |  |  |  |  | 3 |
| 5 | *Back*/Punggung |  |  |  |  | 3 |
| 6 | *Right Upper Arm*/Lengan Kanan Atas |  |  |  |  | 3 |
| 7 | *Waist*/Pinggang |  |  |  |  | 4 |
| 8 | *Buttock*/Pantat |  |  |  |  | 1 |
| 9 | *Bottom*/Bagian Bawah Pantat |  |  |  |  | 1 |
| 10 | *Left elbow*/Siku Kiri |  |  |  |  | 1 |
| 11 | *Right elbow*/Siku Kanan |  |  |  |  | 1 |
| 12 | *Left Lower Arm*/Lengan Kiri Bawah |  |  |  |  | 1 |
| 13 | *Right Lower Arm*/Lengan Kanan Bawah |  |  |  |  | 1 |
| 14 | *Left Wrist*/Pergelangan Tangan Kiri |  |  |  |  | 2 |
| 15 | *Right Wrist*/Pergelangan Tangan Kanan |  |  |  |  | 2 |
| 16 | *Left Hand/Tangan Kiri* |  |  |  |  | 2 |
| 17 | *Right Hand*/Tangan Kanan |  |  |  |  | 2 |
| 18 | *Left Thigh*/Paha Kiri |  |  |  |  | 2 |
| 19 | *Right Thigh*/Paha Kanan |  |  |  |  | 2 |
| 20 | *Left Kneel*/Lutut Kiri |  |  |  |  | 2 |
| 21 | *Right Kneel*/Lutut Kanan |  |  |  |  | 2 |
| 22 | *Left Calf*/Betis Kiri |  |  |  |  | 2 |
| 23 | *Right Calf*/Betis Kanan |  |  |  |  | 2 |
| 24 | *Left Ankle*/Pergelangan Kaki Kiri |  |  |  |  | 2 |
| 25 | *Right Ankle*/Pergelangan Kaki Kanan |  |  |  |  | 2 |
| 26 | *Left Foot*/Kaki Kiri |  |  |  |  | 1 |
| 27 | *Right Foot*/Kaki Kanan |  |  |  |  | 1 |
| Jumlah | | 8 | 12 | 5 | 3 | 59 |

Tabel 4 Analisis *Nordic Body Map* Perakitan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No | *Location* | *Level of Complain* | | | | |
| 1 | 2 | 3 | 4 | *Score* |
| 0 | *Upper Neck*/Leher atas |  |  |  |  | 4 |
| 1 | *Lower Neck*/Leher Bawah |  |  |  |  | 4 |
| 2 | *Left shoulder*/Bahu Kiri |  |  |  |  | 4 |
| 3 | *Right shoulder*/Bahu Kanan |  |  |  |  | 4 |
| 4 | *Left upper Arm*/Lengan Kiri Atas |  |  |  |  | 4 |
| 5 | *Back*/Punggung |  |  |  |  | 4 |
| 6 | *Right Upper Arm*/Lengan Kanan Atas |  |  |  |  | 4 |
| 7 | *Waist*/Pinggang |  |  |  |  | 4 |
| 8 | *Buttock*/Pantat |  |  |  |  | 2 |
| 9 | *Bottom*/Bagian Bawah Pantat |  |  |  |  | 2 |
| 10 | *Left elbow*/Siku Kiri |  |  |  |  | 3 |
| 11 | *Right elbow*/Siku Kanan |  |  |  |  | 2 |
| 12 | *Left Lower Arm*/Lengan Kiri Bawah |  |  |  |  | 2 |
| 13 | *Right Lower Arm*/Lengan Kanan Bawah |  |  |  |  | 4 |
| 14 | *Left Wrist*/Pergelangan Tangan Kiri |  |  |  |  | 2 |
| 15 | *Right Wrist*/Pergelangan Tangan Kanan |  |  |  |  | 4 |
| 16 | *Left Hand/Tangan Kiri* |  |  |  |  | 2 |
| 17 | *Right Hand*/Tangan Kanan |  |  |  |  | 4 |
| 18 | *Left Thigh*/Paha Kiri |  |  |  |  | 4 |
| 19 | *Right Thigh*/Paha Kanan |  |  |  |  | 4 |
| 20 | *Left Kneel*/Lutut Kiri |  |  |  |  | 4 |
| 21 | *Right Kneel*/Lutut Kanan |  |  |  |  | 4 |
| 22 | *Left Calf*/Betis Kiri |  |  |  |  | 4 |
| 23 | *Right Calf*/Betis Kanan |  |  |  |  | 4 |
| 24 | *Left Ankle*/Pergelangan Kaki Kiri |  |  |  |  | 3 |
| 25 | *Right Ankle*/Pergelangan Kaki Kanan |  |  |  |  | 3 |
| 26 | *Left Foot*/Kaki Kiri |  |  |  |  | 3 |
| 27 | *Right Foot*/Kaki Kanan |  |  |  |  | 3 |
| Jumlah | | 0 | 6 | 5 | 17 | 95 |

1. **Assessment RULA (Gerakan Pemotongan)**



1. **Assessment REBA**
2. **Gerakan Perakitan**



1. **Gerakan Pengangkutan**



**GERAKAN PERBAIKAN**

1. **Gerakan Perakitan**



1. **Gerakan Pengangkutan**

