

BIOMECHANICAL JOB ANALYSIS

JOB TITLE: _____

DEPARTMENT: _____

DATE OF ANALYSIS: _____ NAME OF ANALYST: _____

Biomechanics is the study of the physical interaction of the worker with his/her tools, machines, materials and work station in order to maximize worker performance and minimize the risk of musculoskeletal injury.

The purpose of this analysis is to facilitate the matching of the worker to the collection of tasks in a manner which will insure safe completion. If the function is an essential function, as defined by ADA, either a reasonable accommodation must be made or the employee must possess physical capacities equal to the physical demands of the job.

A. STRENGTH FACTORS

| | LIFTING | CARRYING | PULLING | PUSHING |
|--------------------|---------|----------|---------|---------|
| 0 to 10 pounds | | | | |
| 11 to 20 pounds | | | | |
| 21 to 50 pounds | | | | |
| * 51 to 100 pounds | | | | |
| * over 100 pounds | | | | |

KEY: N = never; W = weekly; D = daily; H = hourly;
 describe on line below, if more frequent than hourly:

B. POSTURE FACTORS

| | | | |
|----------|--|------------------|--|
| seated | | kneeling | |
| standing | | crouching | |
| walking | | bending at waist | |
| stooping | | turning at waist | |

KEY: % of day in one or more of these postures (0 - 100); 1 hour = 12.5%

C. MOVEMENT FACTORS

1. Climbing. % of day climbing (1 - 100) the following;
1 hour = 12.5%

| | | | |
|---------|--|-------|--|
| stairs | | ramps | |
| ladders | | other | |

2. Balancing

Is maintaining body equilibrium to prevent a fall required due to a wet, slippery, unsteady, irregular working, walking surface, narrow walking areas, vibrating or moving walkways a factor in this job?

yes no

D. HAND AND ARM CONTROL FACTORS

| | | |
|------------------------|--|--|
| Is reaching required? | (extending hands and arms in any direction) | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Is handling required? | (holding object in whole hand or hands) | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Is fingering required? | (picking, pushing, holding with fingers) | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Is touch required? | (perception of object characteristic through touch receptors in fingers) | <input type="checkbox"/> yes <input type="checkbox"/> no |

Right Hand _____ Left Hand _____ Right Arm _____ Left Arm _____

E. COMMUNICATION FACTORS

| | |
|---|---|
| 1. Is speaking required in order to perform primary tasks? Other communications methods may be adapted? <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> always <input type="checkbox"/> sometimes <input type="checkbox"/> never |
| 2. Is hearing audio cues, alarms, words, etc., required in order to perform tasks? Other communications may be adapted? <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> always <input type="checkbox"/> sometimes <input type="checkbox"/> never |

F. VISUAL FACTORS

| | | | |
|---------------------|---------------------------------|----------------------------------|---------------------------------------|
| Visual acuity | <input type="checkbox"/> normal | <input type="checkbox"/> limited | <input type="checkbox"/> not a factor |
| Depth of perception | <input type="checkbox"/> normal | <input type="checkbox"/> limited | <input type="checkbox"/> not a factor |
| Field of vision | <input type="checkbox"/> normal | <input type="checkbox"/> limited | <input type="checkbox"/> not a factor |
| Accommodation | <input type="checkbox"/> normal | <input type="checkbox"/> limited | <input type="checkbox"/> not a factor |
| Color vision | <input type="checkbox"/> normal | <input type="checkbox"/> limited | <input type="checkbox"/> not a factor |

"Limited" means that this capability is either not significant or may be substituted by other sensory capacity.

G. **ENVIRONMENTAL FACTORS** Temperatures of work station can affect biomechanical performance due to clothing restrictions, wearing personal protective equipment, etc.

Work station temperature conditions:

Indoor Less than 62° _____ 62-80° _____ over 80° _____
Outdoor Less than 62° _____ 62-80° _____ over 80° _____

H. **OVERALL JOB/TASK ASSIGNMENT** This job may be defined as:

- Sedentary Work 10 pounds maximum; lifting and carrying objects; walking or standing on occasion, primarily sitting
- Light Work 20 pounds maximum lifting; carrying 10-pound objects frequently
- Medium Work 50 pounds maximum lifting with frequent lifting and carrying up to 20 pounds; frequent standing or walking
- Heavy work 100 pounds maximum; occasional lifting, carrying, pushing or pulling 51-100 pounds; frequent lifting, carrying, pulling or pushing up to 50 pounds; frequent standing or walking

and/or

- Repetitive Work The arm _____, hand L/R or both _____, and/or fingers _____ are used repetitively; several repetitions of the same musculoskeletal task per hour for at least 2 hours of each work day.

Personal Protective Equipment

Position requires use of personal protection equipment? yes no

* NOTE: You have indicated that this position requires strength factors capable of handling weights 51 to 100 pounds and/or over 100 pounds. This task ability must apply to present employees, as well as candidates being considered for this position in the future. Please give an example of the tasks requiring handling of the appropriate weight/strength factors.

ex: 51 - 100 pounds lifting, carrying, pulling or pushing

ex: over 100 pounds lifting, carrying, pulling or pushing
