

HAMS-GPS : Hygiene Index for :**Test**

Conforms to ILO's "Stress-Relaxation" Model

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Task Number: **L-5.1**

Report date Saturday, December 21, 2013

job title: **Operation of Reactor**Ref. No: **Lesson-5**Task title: **Charging Reactor**Date of evaluation: **16/01/2004**

Task Description:

Month of evaluation: **January****Opens reactor man hole, Carries 10-kg bags of chemical, charges a reactor, charges solvents in to reactor, closes reactor man hole.**Year of evaluation: **2004**Shift duration (Hours): **7.00**Task duration (Hours): **1.00**Total Tea break (Minutes): **30**Age group of employeesTotal No. of person: **2**Designation: **Operator**18 To 25: **2** 36 To 40: **0** 51 To 55: **0**Department: **Production**26 To 30: **0** 41 To 45: **0** 56 To 60: **0**Section: **Main Reactor**31 To 35: **0** 46 To 50: **0** 61 To 65: **0****Summary of results****Result parameter:****Result Value:**

Total Time done (mins):	31	Names and IDs of employees doing task:
Total stress points:	4	Mr. Ramesh Op-1
Normal Stress Points	6	Mr. Rakesh Op-2
Relaxation allowance (%):	10.00	
Shift Free Time (min):	29.00	
Total Tea Break Time (min):	30.00	
Relaxation Required (mins)	3.10	
Relaxation available (mins)	33.29	
Additional Relaxation Required (mins):	0.00	
Hygiene index for strains::	0.67	
Hygiene index for relaxation	10.74	

RANKING**Stress Index ranking:****Relaxation Index ranking:****Excellent****Over relaxed**

Recommendation on strain ranking:

Over relaxed for excellent strain level shows low manpower utilization. Lot of scope for adding low strain activity to Task content for improved productivity

Definitions of some key terms:

- Total Time done (mins.) : Sum of all independent task timings.
- Total Stress points : Is the sum of all stress points.
- Total Relaxation allowance (%) : Is the sum of percent tea break time and percent relaxation required for stress points to total shift work time
- Shift Free Time (mins.) : Unutilised time out of shift work time.
- Tea Break Time (mins.) : Total tea break allowed in minutes.
- Relaxation Required (mins) : Is the total relaxation time required corresponding to total stress points
- Relaxation available (mins.) : Total shift free time plus total tea break in minutes.
- Additional Relaxation Required (mins.) : Total relaxation required for total stress points minus total tea break time in minutes (if negative set to zero),
- Hygiene Index for Stress : Is the ratio of total stress points to maximum stress points of 6 required for minimum relaxation of 10% of work time,
- Hygiene Index for Relaxation : Relaxation index is the ratio of total relaxation available to total relaxation required.

Ref. No:	Lesson-5	Task title:	Charging Reactor
Date of evaluation:	16/01/2004	Task Description:	
Report date	Saturday, Decemb	Opens reactor man hole, Carries 10-kg bags of chemical, charges a reactor, charges solvents in to reactor, closes reactor man hole.	

A. Physical strains resulting from nature of work:

A1: Average force exerted

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
	6	Independent	High	3

A2: Posture

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Sitting or walking with a load	4	Dependent	Low	0

A3: Vibration

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Opening of reactor man hole using tools	25	Independent	Low	0

A4: Short cycle

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Not applicable	0	-	-	0

A5: Restrictive clothing

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Industrials rubber or leather gloves and goggles during charging	8	Dependent	Low	0

B. Mental stresses:

B1: Concentration/anxiety (In two Parts)

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Charging reactor with attention	8	Dependent	Low	0

B2: Monotony

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Not applicable	0	-	-	0

B3: Eye strain

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Normal factory work	420	Dependent	Low	0

Ref. No:	Lesson-5	Task title:	Charging Reactor
Date of evaluation:	16/01/2004	Task Description:	
Report date	Saturday, Decemb	Opens reactor man hole, Carries 10-kg bags of chemical, charges a reactor, charges solvents in to reactor, closes reactor man hole.	

B4: Noise

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Noise of process plant	420	Dependent	Low	0

C. Physical and/or mental strains and stresses resulting from nature of working conditions:

C1: Temperature / Humidity

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Not applicable	0	-	Low	0

C2: Ventilation

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Process plant with exhaust system	420	Dependent	Low	1

C3: Fumes

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Some chemical vapours	420	Dependent	Low	0

C4: Dust

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Charging chemicals to reactor	17	Dependent	Low	0

C5: Dirt

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Not applicable	0	-	-	0

C6: Wet

<u>Type of stress factor:</u>	<u>Time done (mins):</u>	Dependency option:	<u>Stress level:</u>	Stress points:
Not applicable	0	-	-	0

<u>Total Time done on Independent tasks (mins):</u>	31	Total stress points:	4
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Conforms to ILO's "Stress-Relaxation" Model

Licensed To : HAMSAGARS

Task Number: L-5.1

Report date Saturday, December 21, 2013

job title: Operation of Reactor

Ref. No: Lesson-5
Date of evaluation: 16/01/2004
Month of evaluation: January
Year of evaluation: 2004

Task title: Charging Reactor
Task Description:
Opens reactor man hole, Carries 10-kg bags of chemical, charges a reactor, charges solvents in to reactor, closes reactor man hole.

Shift duration (Hours): 7.00
Task duration (Hours): 1.00
Total Tea break (Minutes): 30

	<u>Age group of employees</u>				Total No. of person:
Designation: Operator	18 To 25:	2	36 To 40:	0	51 To 55: 0
Department: Production	26 To 30:	0	41 To 45:	0	56 To 60: 0
Section: Main Reactor	31 To 35:	0	46 To 50:	0	61 To 65: 0

Summary of results

<u>Result parameter:</u>	<u>Result Value:</u>	
Total Time done (mins):	31	Names and IDs of employees doing task:
Total stress points:	4	Mr. Ramesh Op-1
Normal Stress Points	6	Mr. Rakesh Op-2
Relaxation allowance (%):	10.00	
Shift Free Time (min):	29.00	
Total Tea Break Time (min):	30.00	
Relaxation Required (mins)	3.10	
Relaxation available (mins)	33.29	
Additional Relaxation Required (mins):	0.00	
Hygiene index for strains::	0.67	
Hygiene index for relaxation	10.74	

RANKING

Stress Index ranking:

Excellent

Relaxation Index ranking:

Over relaxed

Recommendation on strain ranking:

Over relaxed for excellent strain level shows low manpower utilization. Lot of scope for adding low strain activity to Task content for improved productivity

Definitions of some key terms:

- Total Time done (mins.) : Sum of all independent task timings.
- Total Stress points : Is the sum of all stress points.
- Total Relaxation allowance (%) : Is the sum of percent tea break time and percent relaxation required for stress points to total shift work time
- Shift Free Time (mins.) : Unutilised time out of shift work time.
- Tea Break Time (mins.) : Total tea break allowed in minutes.
- Relaxation Required (mins) : Is the total relaxation time required corresponding to total stress points
- Relaxation available (mins.) : Total shift free time plus total tea break in minutes.
- Additional Relaxation Required (mins.) : Total relaxation required for total stress points minus total tea break time in minutes (if negative set to zero),
- Hygiene Index for Stress : Is the ratio of total stress points to maximum stress points of 6 required for minimum relaxation of 10% of work time,
- Hygiene Index for Relaxation : Relaxation index is the ratio of total relaxation available to total relaxation required.

job title: **Operation of Reactor**

<u>Result parameter:</u>	<u>Result Value:</u>
Total Time done (mins):	277
Total stress points:	14
Relaxation allowance (%):	11.00
Shift Free Time (min):	143.00
Relaxation Required (mins)	38.78
Relaxation available (mins)	173.00
Additional Relaxation Required (mins):	0.00

RANKING**Stress Index ranking:** **Relaxation Index ranking:****Medium****Over relaxed**

Recommendation on strain ranking:

Try to mechanise medium Stress Task activities to reduce Stress level and also bring down relaxation

Definitions of some key terms:

- i. Total Time done (mins.) : Sum of all independent task timings.
- ii. Total Stress points : Is the sum of all stress points.
- iii. Total Relaxation allowance (%) : Is the sum of percent tea break time and percent relaxation required for stress points to total shift work time
- iv. Shift Free Time (mins.) : Unutilised time out of shift work time.
- v. Tea Break Time (mins.) : Total tea break allowed in minutes.
- vi. Relaxation Required (mins) : Is the total relaxation time required corresponding to total stress points
- vii. Relaxation available (mins.) : Total shift free time plus total tea break in minutes.
- viii. Additional Relaxation Required (mins.) : Total relaxation required for total stress points minus total tea break time in minutes (if negative set to zero),
- ix. Hygiene Index for Stress : Is the ratio of total stress points to maximum stress points of 6 required for minimum relaxation of 10% of work time,
- x. Hygiene Index for Relaxation : Relaxation index is the ratio of total relaxation available to total relaxation required.

Task Number: L-5.1

Report date Saturday, December 21, 2013

job title: Operation of Reactor

Ref. No: Lesson-5

Task title: Charging Reactor

Date of evaluation: 16/01/2004

Task Description:

Month of evaluation: January

Opens reactor man hole, Carries 10-kg bags of chemical, charges a reactor, charges solvents in to reactor, closes reactor man hole.

Year of evaluation: 2004

Shift duration (Hours): 7.00

Task duration (Hours): 1.00

Total Tea break (Minutes): 30

Age group of employees

Total No. of person: 2

Designation: Operator

18 To 25: 2 36 To 40: 0 51 To 55: 0

Department: Production

26 To 30: 0 41 To 45: 0 56 To 60: 0

Section: Main Reactor

31 To 35: 0 46 To 50: 0 61 To 65: 0

Summary of results

Result parameter:

Result Value:

Total Time done (mins): 31
Total stress points: 4
Relaxation allowance (%): 10.00
Shift Free Time (min): 29.00
Total Tea Break Time (min): 30.00
Relaxation Required (mins): 3.10
Relaxation available (mins): 33.29
Additional Relaxation Required (mins): 0.00
Hygiene index for strains: 0.67
Hygiene index for relaxation: 10.74

Names and IDs of employees doing task:
Mr. Ramesh Op-1
Mr. Rakesh Op-2

RANKING

Index ranking:

Hygiene index for relaxation:

Excellent

Over relaxed

Recommendation on strain ranking:

Over relaxed for excellent strain level shows low manpower utilization. Lot of scope for adding low strain activity to Task content for improved productivity

Task Number: **L-5.2**

Report date Saturday, December 21, 2013

job title: **Operation of Reactor**

Ref. No: **Lesson-5.2**

Task title: **Starting reaction and completing it**

Date of evaluation: **16/01/2004**

Task Description:

Month of evaluation: **January**

After charging reactor, strats reaction and attends to controlling reaction parameters like temperature, sampling etc.

Year of evaluation: **2004**

Shift duration (Hours): **7.00**

Task duration (Hours): **4.00**

Total Tea break (Minutes): **30**

Age group of employees

Total No. of person: **2**

Designation: **Operator**

18 To 25: **2** 36 To 40: **0** 51 To 55: **0**

Department: **Production**

26 To 30: **0** 41 To 45: **0** 56 To 60: **0**

Section: **Main Reactor**

31 To 35: **0** 46 To 50: **0** 61 To 65: **0**

Summary of results

Result parameter:

Result Value:

Total Time done (mins):

168

Names and IDs of employees doing task:

Total stress points:

5

Mr. Ramesh Op-1
Mr. Rakesh Op-2

Relaxation allowance (%):

10.00

Shift Free Time (min):

72.00

Total Tea Break Time (min):

30.00

Relaxation Required (mins)

16.80

Relaxation available (mins)

89.14

Additional Relaxation Required (mins):

0.00

Hygiene index for strains::

0.83

Hygiene index for relaxation

5.31

RANKING

Index ranking:

Hygiene index for relaxation:

Excellent

Over relaxed

Recommendation on strain ranking:

Over relaxed for excellent strain level shows low manpower utilization. Lot of scope for adding low strain activity to Task content for improved productivity

Task Number: **L-5.3**

Report date Saturday, December 21, 2013

job title: **Operation of Reactor**

Ref. No: **Lesson-5.3**

Task title: **Unloading reaction product from reactor**

Date of evaluation: **16/01/2004**

Task Description:

Month of evaluation: **January**

Stops reaction, allows to cool and unloads product to product vessel

Year of evaluation: **2004**

Shift duration (Hours): **7.00**

Task duration (Hours): **2.00**

Total Tea break (Minutes): **30**

Age group of employees

Total No. of person: **2**

Designation: **Operator**

18 To 25: **2** 36 To 40: **0** 51 To 55: **0**

Department: **Production**

26 To 30: **0** 41 To 45: **0** 56 To 60: **0**

Section: **Main Reactor**

31 To 35: **0** 46 To 50: **0** 61 To 65: **0**

Summary of results

Result parameter:

Result Value:

Total Time done (mins):

78

Names and IDs of employees doing task:

Total stress points:

5

Mr. Ramesh Op-1
Mr. Rakesh Op-2

Relaxation allowance (%):

10.00

Shift Free Time (min):

42.00

Total Tea Break Time (min):

30.00

Relaxation Required (mins)

7.80

Relaxation available (mins)

50.57

Additional Relaxation Required (mins):

0.00

Hygiene index for strains::

0.83

Hygiene index for relaxation

6.48

RANKING

Index ranking:

Hygiene index for relaxation:

Excellent

Over relaxed

Recommendation on strain ranking:

Over relaxed for excellent strain level shows low manpower utilization. Lot of scope for adding low strain activity to Task content for improved productivity