

IMPLIMENTATION



ELEKTRISOLA (Malaysia) SDN BHD.



Ergonomics



CHEMICAL



NOISE



ELEKTRISOLA

Enamelled Copper Wire



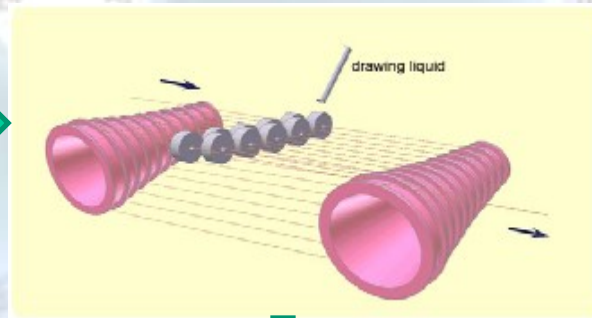
Introduction Of Elektrisola

- A multinational company headquartered in Eckenhausen, Germany and is the largest producer of fine copper magnet wire in the world
- Elektrisola Group was founded by a specialist metallurgist, **Dr Richard Shildbach in 1923 in Germany**. To date, the group has grown Elektrisola has 7 factories worldwide - Germany, Italy (two plants), Switzerland, USA, Malaysia, Mexico and China.
- EM was established in 1992 in the industrial area of Bentong, Pahang Darul Makmur, before moving to the plant site remained in Janda Baik in 1993.
- In 2017, EM has reached the age of 25 years of existence. Starting with a temporary factory site with fewer than 70 employees, today the EM has grown not only in terms of employees has reached 750 people, but it is among the largest factory to other factories within the Group Elektrisola



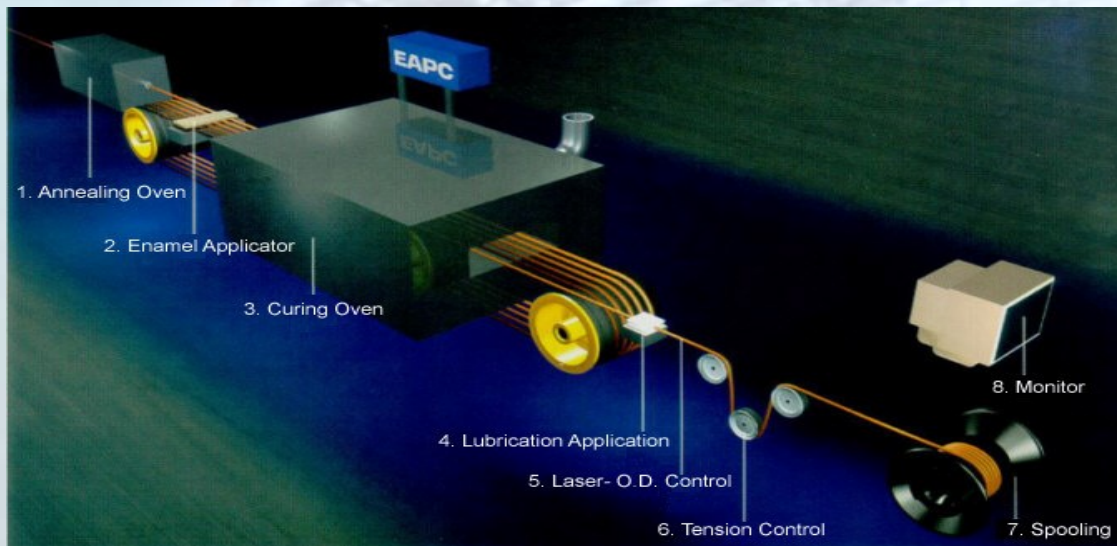
Magnet Cooper Wire Process

Copper
2.00mm

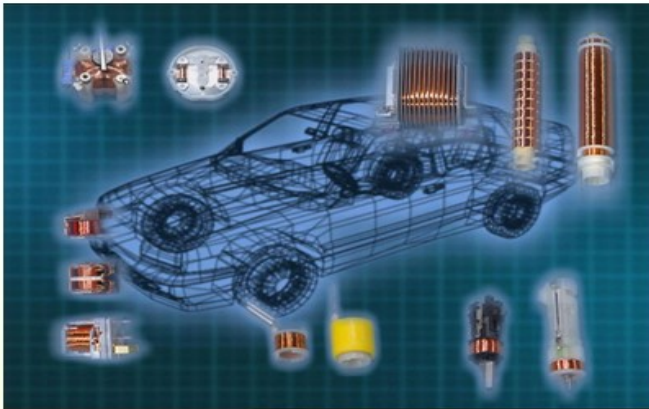


2 Main Process
Drawing
(Rarefaction)

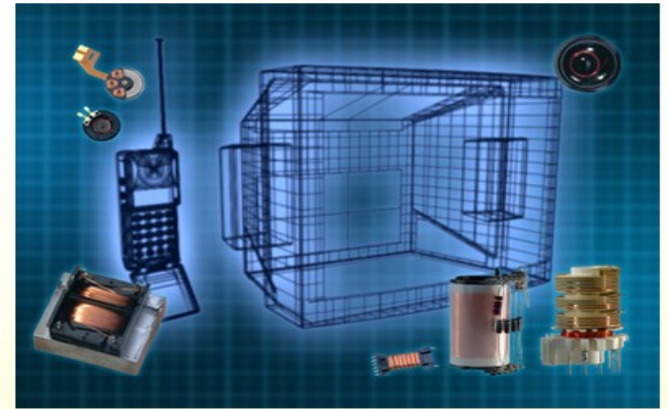
Enamelling
(Coating)



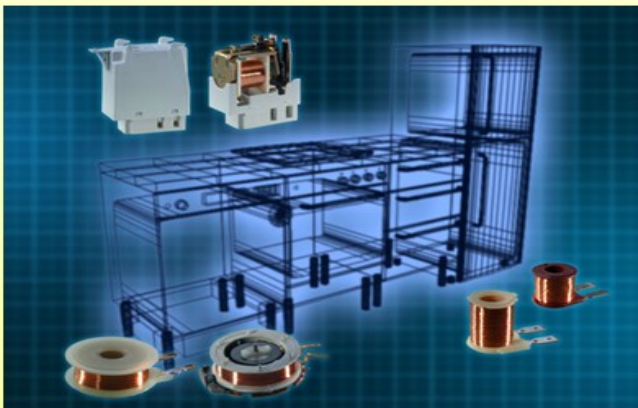
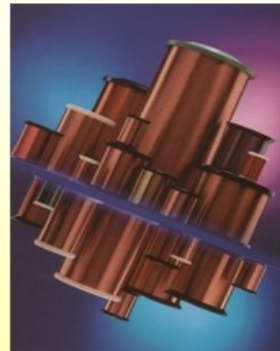
ELEKTRISOLA PRODUCT APPLICATION



Automotive



Industrial



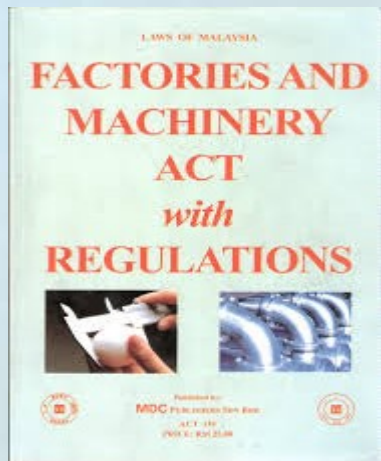
Appliance



Consumer



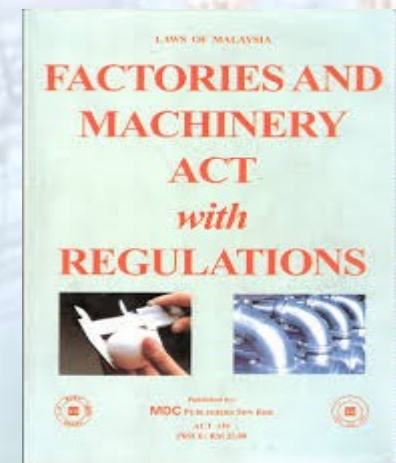
OSH Compliance Related to Industrial Hygiene (Noise, Chemical & Ergonomics)



**FACTORIES AND MACHINERY
(NOISE EXPOSURE)
REGULATIONS 1989**



**OCCUPATIONAL SAFETY AND
HEALTH (USE AND STANDARDS
OF EXPOSURE OF CHEMICALS
HAZARDOUS TO HEALTH)
REGULATIONS 2000**



**FACTORIES AND MACHINERY
(SAFETY, HEALTH AND
WELFARE) REGULATIONS 1970**



SOHELP IMPLEMENTATION LEVELS



Comment JKPP Officer

First Coaching

- To establish special SOHELP committee on implementation, PIC, responsibility and job task.
- SOHELP Induction to Committee and workers.
- SOHELP programme and planning (Gantt Chart)

Second Coaching

- To ensure every planning is implemented (Gantt Chart)
- Every imported chemical should follow CLASS regulation.
- Ensure SDS in dual language
- To review Chemical Register closely
- Past Audiometric result – 2 persons STS- Ensure Retest.
- To conduct Campaign related to SOHELP, to achieve 5 stars rating.



SoHELP : LEVEL 1 (NOISE,CHEMICAL & ERGONOMIC) BASIC



SOHELP : LEVEL 2 (NOISE,CHEMICAL & ERGONOMIC) BASIC



Person in
charge attended
SOHELP
program



SOHELP : LEVEL 2 (NOISE,CHEMICAL & ERGONOMIC) BASIC

Provide implementation plan for 2 years

ELEKTRISOLA (M) Sdn Bhd SOHELP CALENDAR ACTIVITIES															
YEAR 2016 -2017															
	Activities Title	Planning	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	Level On Entry	Planning	----->												
		Actual	----->												
1	Establish SOHELP Committee In	Planning		----->											
		Actual		----->											
2	Training the SOHELP Committee	Planning		----->											
		Actual		----->											
Ergonomic															
2	Level 2 (Basic)														
	Planning to implement the program Involve Employee	Planning		----->											
		Actual		----->											
3	Level 3 (Intermediate)														
	Conduct the Ergonomic Training To Employee	Planning		----->											
		Actual		----->											
4	Level 4 (Advance)														
	50% Implementation Workplace Ergonomic Assessment & Checklist	Planning		----->											
		Actual		----->											
5	Level 5 (Excellent)														
	Full Implementation Ergonomic Assessment & Checklist	Planning		----->											
		Actual		----->											
Chemical															
3	Level 3 (Intermediate)														
	PPE Fit Test	Planning		----->											
		Actual		----->											
5	Level 5 (Excellent)														
	Full Implementation CHRA report Proposal	Planning		----->											
		Actual		----->											
Noise															
	Implement SOHELP Campaign	Planning		----->											
		Actual		----->											



SOHELP : LEVEL 2 (NOISE,CHEMICAL & ERGONOMIC) BASIC

HIRARC has been conducted

No.	Activity	Condition of assessment	Hazard	Hazard Category	Consequence	Severity	Likelihood	Initial Risk Rating	Accident Record	Existing Control Measure	ECM Factor	Residual Risk Rating	Risk Category
20	Working at production area (machine and inspection). <i>Bekerja di kawasan pengeluaran Intermediate (mesin dan pemeriksaan).</i>	R/W	Loud noise. <i>Bunyi bising.</i>	Physical <i>Fizikal</i>	Deafness. <i>Pekak.</i>	3	1	3	JKKP_7 (2012)	i. Wear ear plug. <i>Pakai earplug.</i> ii. Yearly audiometric test. <i>Ujian audiometrik tahunan.</i> iii. Installed sound proofing at machines. <i>Mesin dipasang dengan penghalang bunyi.</i>	0.1	0.3	Low

Identified

Assess

Control





NOISE



SOHELP : LEVEL 2 (NOISE)



Conducted Noise, Risk Assessment



SOHELP : LEVEL 2 (NOISE)

ELEKTRISOLA (MALAYSIA) SDN. BHD.

(iv) Personal Noise Exposure Monitoring

Department / Section	Name	Run Time (hrs)	Dose 7.0hrs (%)	Leq 7.0hrs (dBA)	Peak (dB)	Max (dBA)	Type Of Exposure
Old Factory (Intermediate Drawing)		7.42	32.42	82.8	135.3	110.2	Fluctuating
		7.37	39.99	84.4	132.4	106.5	Fluctuating
Old Factory (Fine Wire Drawing)		7.38	39.60	79.2	133.7	114.0	Fluctuating
		7.40	41.19	84.6	*143.5	112.7	Fluctuating
New Factory (Ultrafine Drawing)		7.43	8.70	73.4	128.4	104.7	Fluctuating
		7.38	25.88	81.2	133.8	113.1	Fluctuating
		7.43	28.47	81.9	125.4	103.2	Fluctuating
Die Polishing (Small)		7.40	38.64	78.8	120.5	106.3	Fluctuating
Die Polishing (Big)		7.60	10.86	78.9	135.2	110.7	Fluctuating
Carpentry		7.40	12.72	76.1	135.9	111.6	Fluctuating
Old Factory (Fine Wire Enameling)		7.62	9.26	73.8	125.4	108.1	Fluctuating
		7.62	12.76	76.1	138.1	113.6	Fluctuating
		7.47	19.30	79.1	128.3	107.4	Fluctuating
		7.48	5.85	70.5	136.6	111.0	Fluctuating
New Factory (Ultrafine Enameling)		7.73	29.96	82.3	*146.9	110.4	Fluctuating
		7.73	28.55	81.9	*142.5	108.6	Fluctuating
		7.75	15.72	77.6	131.8	107.7	Fluctuating
LITZ Wire		7.72	3.46	66.7	127.6	102.2	Fluctuating

* The Peak Level exposure could be due to sources not related to normal working condition

Permissible Exposure Limit (PEL):
 Leq: 90.96 dB(A) - Over 7.0 Hours
 Max Level: 115.0 dB(A)
 Peak Level: 140.0 dB

Action Level (AL):
 Leq: 85.96 dB(A) - Over 7.0 Hours

CNL

CNL SAFETY CONSULTANCY (M) SDN BHD (261972-T)

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NOISE :
Assessment



SOHELP : LEVEL 3 (NOISE) – INTERMEDIATE

Provide
information to
employees
exposed to
excessive noise



SOHELP : LEVEL 3 (NOISE) – INTERMEDIATE

Identified
Hearing
Protection
Zone



24/08/2016 12:41

SOHELP : LEVEL 3 (NOISE) – INTERMEDIATE



**Provide Hearing
Protection**

**Implement
Administrative
Control**

**Adequate Record
Assessment**



SOHELP : LEVEL 4 (NOISE) – ADVANCE



Implement Audiometric
Test

Audiometric Testing result
interpreted by
Medical Practitioner

Provide Training



SOHELP : LEVEL 4 (NOISE) – ADVANCE

Implement Administration & Engineering Control

Before



After



Sound
Absorber



SOHELP : LEVEL 5 (NOISE) – EXCELLENT

Continual Improvement

Before



After



Modified Machine
Parts create
Excessive Noise





Chemical



SOHELP : LEVEL 3 (CHEMICAL) – INTERMEDIATE

Information/Instruction & Training



Conduct CHRA

CHEMICAL HEALTH RISK ASSESSMENT (CHRA)

AT

Elektrisola (M) Sdn Bhd
Jalan Damai Satu,
Janda Baik, 28750 Bentong,
Pahang Daruk Makmur.

Our Ref. No. : L-KL-CR1406NEL-0552
Assessment Date : 24th & 25th June 2014
Reporting Date : 29th September 2014

Prepared By :



Environmental Science (M) Sdn. Bhd.
No. 18, Jalan Tago 11,
Tago Industrial Park,
Sri Damansara,
52200 Kuala Lumpur
Tel : 03-62736013 Fax : 03-62759325

Conducted by:

Muhamad Khairul Najib bin Ahmad
JKKP HIE 127/171-2(259)
&
Soo Ee Wah
JKKP HIE 127/171-2(264)



SOHELP : LEVEL 3 (CHEMICAL) – INTERMEDIATE

Provide appropriate warning sign



SOHELP : LEVEL 3 (CHEMICAL) – INTERMEDIATE

**Provide Suitable
PPE**



PPE FIT TEST



PPE PROPER STORAGE



SOHELP : LEVEL 4 (CHEMICAL) – ADVANCE

IMPLEMENTATION OF RECOMMENDED ACTION

CLIENT : ELEKTRISOLA (MALAYSIA) SDN. BHD.
PROJECT REF : CHEMICAL EXPOSURE MONITORING



7.0 MONITORING RESULTS

7.1 PERSONAL EXPOSURE MONITORING RESULTS

Table 7.1(a) : Monitoring Data of Chemical Exposure Monitoring

Sample ID	Name	Work Unit/ Task	Work Specification	Chemical Monitored	Duration (min)	Results TWA 8 Hour (mg/m ³)	PEL (mg/m ³)	Comment
P1		QC Laboratory (Oven Room)	Assistant Technician	Lead	360	0.008	0.05	Below PEL
P2		Electronic Room	Technician	Lead	360	0.007	0.05	Below PEL

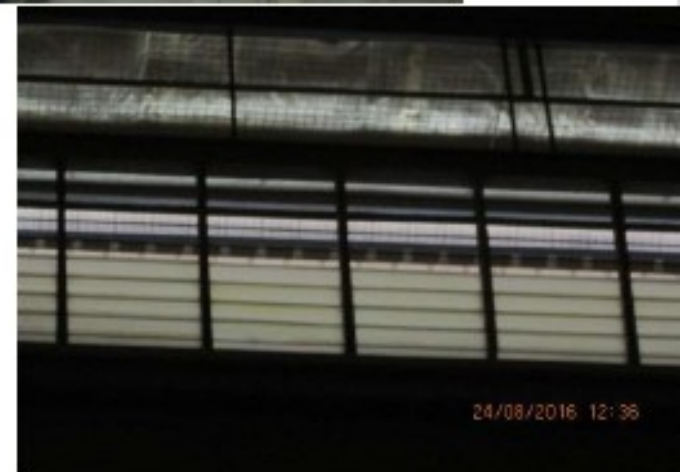
Note: PEL means Permissible Exposure Limit.



SOHELP : LEVEL 4 (CHEMICAL) – ADVANCE

INSTALL EFFECTIVE LEV

INCREASE THE USE OF NATURAL VENTILATION



Implement all action to be taken in the CHRA report

Action To Be Taken Base On 2014 CHRA					
	Date:	Nov-16			
	Time				
	Venue:				
	Attendance				
S/N	Action Items	PIC	Status	When	Remarks
1	Lead Monitoring				
	Once a year (Monitoring to be carried out during solder bar melting done)	Asran & Safidah	Done	8-Apr-15	Conducted by Chemvi Lab
2	Phenol, Cresol, Xylene (mixed), Ethylbenzene				
	Enamel Controller (E3), (E4,E5 & E6) Enamel Fine & Ultrafine	Asran & Nadiyah	Done	17-Nov-16	Conducted by ACUMEN Lab
3	Rockwool Fibre Monitoring				
	(M1) Oven Repair Room	Asran & Idris	Done	17-Nov-16	Conducted by ACUMEN Lab
4	Wood Dust (Total Particulate Not Otherwise Classified)				
	(L2) Carpentry Operator	Asran & Najib	Done	17-Nov-16	Conducted by ACUMEN Lab

SOHELP : LEVEL 5 (CHEMICAL) – ADVANCE

REVIEW POLICY , BUDGET AND PLANNING IN OSH

ELEKTRISOLA
(Malaysia) Sdn. Bhd. (193121-P)

Plant Wide Objectives, Targets and Management Programs 2017 (POTP)

Objectives	Targets (2017)	Management Programs
<ul style="list-style-type: none"> • Meminimakan bahaya dan risiko pekerjaan. 	<ul style="list-style-type: none"> • Mengurangkan kehilangan masa kecederaan untuk keseluruhan kilang kepada 16 hari cuti sakit menjelang akhir tahun 2017. • Menurunkan sekurang-kurangnya 5% kes sakit belakang dalam tahun 2017 berdasarkan data penanda aras tahun 2014 hingga 2016. 	<ul style="list-style-type: none"> • Menggalakkan pekerja untuk melaporkan semua kes-kes kejadian yang mungkin berlaku di dalam tempoh 24 jam. • Melaksanakan sekurang-kurangnya satu pemeriksaan tempat kerja setiap 2 bulan (6 kali setahun) dan meliputi semua kawasan EM. • Kakitangan ESH akan menyertai perjumpaan pertukaran syif sekurang-kurangnya 8 kali sebulan. • Menjalankan sekurang-kurangnya satu pemerhatian BBS setiap 2 bulan (6 kali / tahun). • Melaksanakan sekurang-kurangnya satu program seluruh kilang berkaitan sakit belakang. • Mengedarkan sekurang-kurangnya satu komunikasi kesedaran untuk setiap 2 bulan (6 komunikasi setahun) berkenaan sakit belakang.
<ul style="list-style-type: none"> • Melaksanakan latihan Pengungsian Bangunan. 	<ul style="list-style-type: none"> • Memindahkan semua pekerja daripada bangunan dalam jangkamasa 4 minit. 	<ul style="list-style-type: none"> • Melaksanakan sekurang-kurangnya dua latihan pengungsian bangunan untuk mana-mana dua syif setiap tahun. • Memberi kesedaran dengan memberi komunikasi ESH kepada semua pekerja sekurang-kurangnya 3 kali setahun.

Policy As
A Good
Cooperate
Citizen





Ergonomics






SOHELP : LEVEL 3 (ERGONOMIC) – INTERMIDIATE

ESTABLISH SOP IN ERGONOMIC

UNCONTROLLED COPY (Valid for use for 3 days start from 3/6/2017)

Procedure No : WSH99010
Revision No : 4
Date Issued : 28.09.2011

Procedure

Flow	Responsibility	Details	Reference
<p>Consideration before commence</p> <p>↓</p> <p>Limitation of capability</p>	EM Employee	<p>1.0 Before start you should consider the risk and the following factor: <i>Sebelum bermula anda hendaklah mempertimbangkan risiko dan faktor-faktor berikut:</i></p> <p>1.1 Size, weight and shape of the object not to cause any danger to health. <i>Ukuran, berat dan bentuk objek tidak menyebabkan apa-apa bahaya kepada kesihatan.</i></p> <p>1.2 Slippery, uneven or obstruction on the floor. <i>Licin, ketidak samaan atau halangan di atas lantai</i></p> <p>1.3 Travelling distance by horizontal or vertical. <i>Jarak perjalanan samada menegak atau melintang.</i></p>	
	EM Employee	<p>2.0 Limit of your capability and do not try anything that you are unable to do. <i>Hadkan kepada keupayan anda dan jangan mencuba sesuatu yang anda tidak mampu untuk melakukannya.</i></p> <p>2.1 Use mechanical lifter if the goods are too big, or difficult to handle. <i>Gunakan pengangkat mekanikal jika barangan terlalu besar, atau susah untuk dikendalikan.</i></p> <p>2.2 Get help in team, at least 2 persons if the goods is weight is not acceptable and too difficult to handle. <i>Dapatkan pertolongan dari rakan sekerja, sekurang-kurangnya 2 orang jika berat barangan tidak mampu diangkat dan terlalu sukar untuk dikendalikan.</i></p>	 



SOHELP : LEVEL 3 (ERGONOMIC) – INTERMEDIATE

CONDUCT WORKPLACE ERGONOMIC ASESMENT

Ranking of exposure level				
No	Task	Section	Exposure Level (%)	Action Level
1	Lifting and transferring box	Logistic	105	4
2	Transferring spool from pallet	Bare wire Inspection (Fine)	97.7	4
3	Transferring box into blue box	Procurement	89.9	4
4	Lifting,pulling and push spool to inspection	Bare wire Inspection (UltraFine)	78.4	4
5	Lifting spool to machine	Litz Wire	75.6	4
6	Cleaning chamber	Production support	72.7	4
7	Spool refurbishing	Procurement	68.8	3
8	Prepared the felt	Production support	67.3	3
9	Take out spool from machine	Drawing (Intermediate)	66.5	3
10	Manual lifting spool from machine	Enamelling (X m/c)	66.5	3
11	Transferring spool into drawing machine	Drawing (Fine wire)	61.4	3
12	Entering empty spool into machine		58	3
13	Take out spool from machine	Litz Wire	51.1	3
14	Cleaning glassware	Production support	40.7	1



SOHELP : LEVEL 3 (ERGONOMIC) – INTERMIDIATE

CONDUCT ERGONOMIC TRAINING TO EMPLOYEE



SOHELP : LEVEL 4 (ERGONOMIC) – ADVANCE

Implementation 50% Ergonomic Risk Assessment

No.	Activity	Condition of assessment	C / I	Hazard	Hazard category	Consequence	Severity	Likelihood	Initial Risk Rating	Accident Record	Existing Control measure
1	Turning spool upright. <i>Menegakkan spool.</i>	R	C	i. Heavy spool. <i>Spool berat.</i>	Ergonomic <i>Ergonomi</i>	Back injury. <i>Kecederaan belakang.</i>	3	1	3	-	i. Use manual handling device <i>Gunakan peralatan menegakkan spool.</i>
				ii. Finger trap. <i>Jari tersepit.</i>	Physical <i>Fizikal</i>	Finger fracture. <i>Jari patah.</i>	3	2	6	16/13	i. Careful. <i>Berhati-hati.</i>



03/03/2017 09:52

SOHELP : LEVEL 5 (ERGONOMIC IMPROVEMENT) – EXCELLENT

BEFORE



Before: Lifting manually

AFTER



After: by lifting hoist



SOHELP : LEVEL 5 (ERGONOMIC IMPROVEMENT) – EXCELLENT

BEFORE



AFTER



Before: Pushing manually

After: by Motorized



SOHELP : LEVEL 5 (ERGONOMIC IMPROVEMENT) – EXCELLENT

BEFORE



Before: manually tilt

AFTER



After: by Motorized tilt



SOHELP : LEVEL 5 (ERGONOMIC IMPROVEMENT) – EXCELLENT

BEFORE



Before : Lower Level

AFTER



After: Raise the pallet level



**SOHELP : LEVEL 5 NOISE, ERGONOMIC & CHEMICAL – EXCELLENT
(CAMPGAIN & PROMOTION)**



SOHELP : LEVEL 5 NOISE, ERGONOMIC & CHEMICAL – EXCELLENT (CAMPAIN & PROMOTION)



**Thanks
For Your Attention**

