



Est. Nov 2000

ENCS

Engineering SDN BHD



www.encs.com.my



03-80616716



encssb@gmail.com

OUR CORE BUSINESS

M&E Engineering

- Clean room system (All classes)
- Medical Clean room (OT Standard)
- Cleanroom inspection & certification
- Air Cond design & maintenance
- HVAC temperature humidity control
- Dust control room
- Cold room storage system
- Electrical DB wiring & installation
- Pump & cooling towers
- Chiller & heat exchange
- Equipment machinery installation
- Motor & bearing replacement

Industrial & Commercial DUCTING

- DOE authority submission
- Exhaust ducting system
- Smoke spill system
- LEV Ventilation system
- Chimney exhaust erection
- HVAC ducting system
- Room pressurization system
- Dust collector & Scrubber
- Factory scheduled maintenance
- DOSH inspection & certification
- GI, PVC, Spiral & SUS304

Industrial & Commercial PIPING

- Chilled Water
- Condenser cooling water
- Compressed Air
- LPG Gas
- Fire Fighting
- Hot Tapping
- uPVC piping
- Refrigerant & PU Jacketing insulation
- Chemical plant utility
- Machinery piping system installation
- Hydraulic tubing & SUS tubing
- PVC, HDPE, ABS, PPR, Eslon piping
- GI, Ductile iron, SUS316, Copper

Civil Engineering

- PIR & PU partition installation
- Gypsum wall & ceiling installation
- Epoxy flooring & tiling
- Steel structure design & fabrication
- Structural metal awning & shelters
- Metal roof cladding & decks
- Steel platform
- GI, SUS304 & PVC gutter
- uPVC drain pipe
- Concrete plinth construction
- Road line painting & premix layering
- Factory maintenance
- Factory facilities refurbishing

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BACKGROUND



ENCS ENGINEERING SDN BHD

was Co-operated in Nov 2000 as a special engineering contractor providing wide scope of services encompassing the disciplines of heating, ventilation, air conditioning, plumbing, production equipment utilities services, clean room services and electrical engineering to the commercial and industrial sector for the protection of human health and high tech manufacturing processes.

ENCS has over 2 decades of experience in our specialty. Any design problems or struggle ENCS is willing to try our best to solve for our customer.

24 years of experiences

Ducting Ventilation

Cleanroom Design & Build

HVAC System

M&E Services

Industrial Piping

BACKGROUND

Our Mission:

To contribute industrial development and commercial growth in our country and become a truly integrated company with our business partner from all over Malaysia.



Our Commitment:

To meet the needs of industrial and commercial product and service with the highest quality and the most competitive prices to earn the lasting respect and loyalty of our valued customers.



PARTICULAR OF COMPANY

Company's Name

ENCS Engineering SDN. BHD

Company's Registration No.

5310-44K

CIDB

Class G5 - ME - M01

Reg No.

Class G5 - B - B04, B07

Office Telephone No.

03-80616176 / Puchong Head Office

06-6720 2093 / Senawang Office

E-Mail

encssb@gmail.com

Company's Director

CHOOK YEW MENG

*30 Years experiences in Air Conditioning ,
Clean Room, Building M & E System, Utilities
Design and Building Construction work*

- Degree in Architectural M & E Services

Account Manager

QUAH LIAN SIM

*20 Years experiences in Business
Management & Financial Accounting*

Senior Manager

CHOOK YEW KOW

*30 Years experiences in Utility & Mechanical
Engineering Site Project Management*

- Master in Fluid Mechanic Engineering

Senior Engineer

WONG FOO HIN

*25 Years of experience in Electrical wiring
system, Air Cond, Ducting, Piping & Clean
Room Construction work*

Company Secretary

LEE SWEE HOCK

*CHARTERED SECRETARY
No. 2A-2B, JALAN TEMENGGUNG 1/9, BANDAR
MAHKOTA CHERAS, 43000 KAJANG
TEL: 03-90103630 FAX: 03-90103620*

PARTICULAR OF COMPANY

Project Engineer

KOLMAN CHUA

20 Years experiences in Air-cond, Ducting system, Piping & Clean Room Construction

CHOOK JIA YUE

10 Years experiences in Air-cond, Ducting system, Piping & Clean Room Construction

- Degree in Mechanical Engineering

CHOOK JIA JIAN

5 Years experiences in Air-cond, Ducting system, Piping & Clean Room Construction

- Degree in Mechanical Engineering

-Scaffolding Competency

HILLARY KUTA

8 Years Experience in Mechanical & Electrical Engineering Site work

CHOOK JIA LOONG

3 Years Experience in Mechanical & Electrical Engineering Site work

Site Foremen

RICKY ANAK MINGGAT

20 Years of Experience in Utility & Mechanical Engineering Site Project Management

BEREMA LAJA

20 Years experiences in Piping and structure system site experience

JOSEPH ANAK NAGA

18 Years experiences in Piping and structure system site experience

ABAS ANAK SANON

18 Years experiences in Piping and structure system site experience

Banker

ALLIANCE BANK BERHAD

(Taman Connaught Branch, KL)

A/C: Number: 1409-1001-0028-384

PRODUCT & SERVICES

INDUSTRIAL CLEAN ROOM



What is a Cleanroom ?

An engineered space, which maintains a very low concentration of airborne particulates.

It is well isolated, well-controlled from contamination, and actively cleansed.

Commonly needed for scientific research purposes or concentrated industrial production.

WHO USES A CLEANROOM ?

Micro electronics

Semi Conductor

Pharmaceuticals

Biotechnology

Plastic

Food manufacturing

Automotive

Industrial Clean Room

Understanding Cleanroom and the Classifications



The fundamental concepts of Clean Room are simple, but the engineering designs regarding every environmental circumstances could be differ in complicit way in order to achieve expected relevant parameter.



ISO CLASSES DETERMINES Microscopic Air Particles
 Cost Of Maintenance
 Build Up Cost

ISO 14644-1 Cleanroom Standards							
Classification	Maximum Particles/m ³						FED STD 209E Equivalent
	≥0.1µm	≥0.2µm	≥0.3µm	≥0.5µm	≥1µm	≥5µm	
ISO 1	10	2.37	1.02	0.35	0.083	0.0029	
ISO 2	100	23.7	10.2	3.5	0.83	0.029	
ISO 3	1,000	237	102	35	8.3	0.029	Class 1
ISO 4	10,000	2,370	1,020	352	83	2.9	Class 10
ISO 5	100,000	23,700	10,200	3,520	832	29	Class 100
ISO 6	1.0 x 10 ⁶	237,000	102,000	35,200	8,320	293	Class 1,000
ISO 7	1.0 x 10 ⁷	2.37 x 10 ⁵	1,020,000	352,000	83,200	2,930	Class 10,000
ISO 8	1.0 x 10 ⁸	2.37 x 10 ⁷	1.02 x 10 ⁷	3,520,000	832,000	29,300	Class 100,000
ISO 9	1.0 x 10 ⁹	2.37 x 10 ⁸	1.02 x 10 ⁸	35,200,000	8,320,000	293,000	Room Air

Environment control is a major factor to achieve an efficient design, for it will save the cost of Cleanroom maintenance. Important to note that various classes of Clean Room will have a tremendous cost difference in it's build & maintenance.

Industrial Clean Room

Components & Materials for construction of Cleanroom

BASIC COMPONENTS



AHU



Washable Filters



Pre-Filters



Mid-Filters

ADDITIONAL COMPONENTS



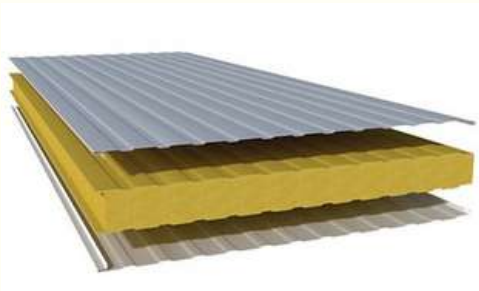
Ducting



Hepa Filters



Epoxy coated & SS Pass Box



PIR Panel



Air Shower



Raised Panel Flooring



Epoxy Flooring



Floor
Wall
Ceiling
Edges Coving



Industrial Clean Room

Construction of Cleanroom with existing built-in machinery



Class 10K ISO7
Cleanroom

50%-55% RH
20C-24C Temp
+10 to +30pa Room
Pressure

Design & built around
existing production
line

Industrial Clean Room

Construction of Cleanroom with existing built-in machinery



Class 100k ISO8
Cleanroom

50%-55%RH
22C-25C Temp
+10 to +30pa Room
Pressure

Design & built around
existing production
line



Industrial Clean Room

Construction of Cleanroom with existing built-in machinery



Class 10k ISO7

3-storey multi level cleanroom
50%-55%RH & 20C-24C Temp
+10 to +30pa Room Pressure

Design & built around existing production equipment



Industrial Clean Room

Construction of new Cleanroom



Industrial Clean Room

Cleanroom Performance Testing & Certification



Airflow Velocity & Volume Test
HEPA Filter Integrity Leak Test
Airborne Particle Test
Temperature & Relative Humidity Test
Room Differential Pressure Test
Light Intensity LUX Test



All our tests adhere to ISO 14644,
British Standards of BS5295,
National Sanitation Foundation of
NSF/ANSI49
& NEBB Procedural Standard



PRODUCT & SERVICES

HEATING, VENTILATION, AIR-COND SYSTEM (HVAC)



What is HVAC ?

Heating

Purpose is to generate heat for the building via system that contains a boiler, furnace, or heat pump to heat water, steam, or air in a central location such as mechanical room

Ventilation

Process of exchanging or replacing air in any space to provide high indoor air quality. It can remove unpleasant smells, excessive moisture, and prevents stagnation of the interior air by circulating it.

Air Conditioning

Provides cooling or humidity control for a specific enclosed area for the purpose of comfort or production requirement.

WE PROVIDE CONSULTATION AND RECOMMENDATION FOR

- Ducting Layout
- AHU Cooling Capacity
- Fan Velocity & Capacity
- Air Flow & Distribution
- Heat Load Calculation
- Authority Submissions

Chemical Exhaust	WE DESIGN AND BUILD	LEV Ventilation
Smoke Spill		Air Con Duct
Dust Collector & Scrubber		Chimney Exhaust

Heating, Ventilation, Air-cond System (HVAC)

Ducting Maintenance Services & Installation

Ducting is an essential element of HVAC in the delivery of desired value of supply, return & exhaust air. Hence, our services includes a proper planning of optimizing the ducting system which will be highly supervised and assured to meet our committed quality, in order to achieve the overall performance and efficiency of HVAC System.



These services below are parts and parcel of what we can do should the client has specific ducting needs.

Fabricate & Installation of new duct

Dismantle & disposal of existing duct

Repairing & replacing of leaking duct

T&C air balancing Inspection

DOE Authority Submission

Scheduled cleaning maintenance & servicing

Heating, Ventilation, Air-cond System (HVAC)

Outdoor SS304 industrial duct installation



WE

Design the system

Fabricate the ducting

Arrange the installation

ENCS

HANDLE everything

for you

1000 x 1000

SS304 Ducting

installation during

48hours production

shutdown period



Heating, Ventilation, Air-cond System (HVAC)

Spiral round duct exhaust ventilation



Round duct is especially well suited for exhaust system due to its shape which helps reduce pressure drop & minimize friction loss



Heating, Ventilation, Air-cond System (HVAC)

AHU & Circulation fan insulated duct



PE Insulated foam is wrap around duct to prevent condensation that leads to "sweating"



Heating, Ventilation, Air-cond System (HVAC)

Chimney erection comply to DOE authority



POP QUIZ

How many meters should you extend the chimney under the DOE regulations ?



PRODUCT & SERVICES

INDUSTRIAL UTILITY PIPING



What is piping ?

Use for transferring liquid, gas, or fine particles from one designated point to another.

Think of piping as the arteries of a factory.

What are some piping components?

Fittings - Tee, Elbow, Nipple, Couplings, Union, Reducers

Valves - Butterfly valve, Ball valve, Check Valve, Gate valve

Flanges - Lap Joint, Screwed, Socket weld, Slip on, Blind off

Types of pipe connection ?

Threaded & Screw connections

Flange connections

Welded joints

Types of material?

Galvanized Iron (GI), Cast Iron, Ductile Iron, Mild steel, Carbon steel, Stainless steel, Brass, Copper, PVC, HDPE, ABS, PPV & etc

WHAT PIPING CAN WE DO?

Compress Air

LPG Gas

Fire Fighting

Chilled Water

Hot Tapping

uPVC ABS Plumbing

Refrigerant & PU Jacketing

Condenser cool water

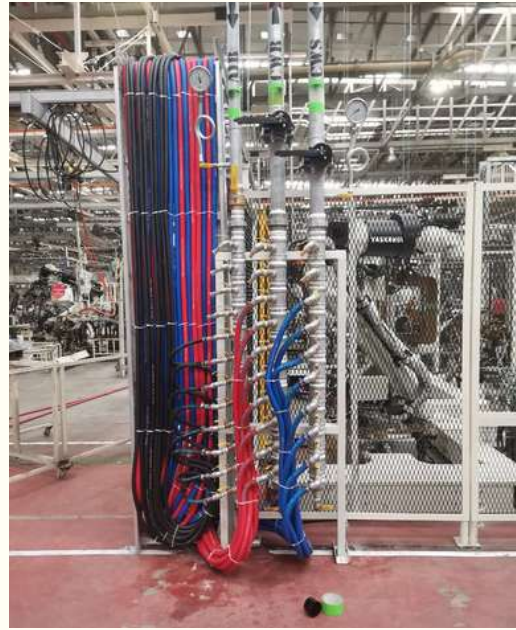
Chemical plant utility

Hydraulic tubing & SUS tubing

Machinery piping installation

Industrial Utility Piping

GI Piping for Compressed air & Cooling water, SCH40 API for LPG Gas



GI is commonly used in both light and heavy industries.

Known for its versatility & universality.

Easy to maintain and replace.

Making it a convenient choice for contractors as well as clients



Industrial Utility Piping

GI Galvanized & Ductile Iron for Incoming City Water Main Piping



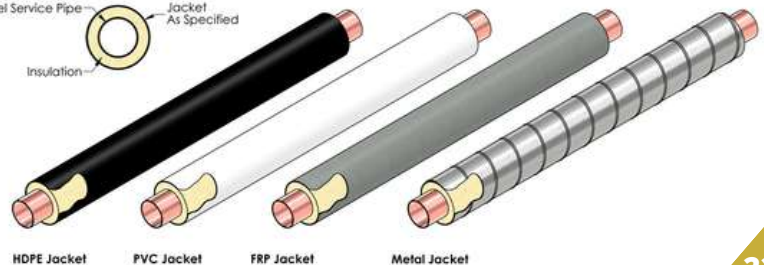
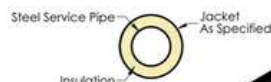
Large diameter GI & Ductile Iron are often the optimal choice for outdoor & underground pipe work due to its durability and impact resistance.

Industrial Utility Piping

PU Jacketing Insulation For Refrigerant & Chilled Water Piping



PU jacketing insulation is wrap around pipe to prevent condensation that leads to droplets leaking from surface of refrigerant pipe.



Industrial Utility Piping

HDPE Main Water Piping with Electro Fusion & Butt Fusion Fitting



High-density Polyethylene is known for its resilient strength & tolerance with high temperature. Making it a good solution for extensive outdoor piping work.



Industrial Utility Piping

SS316 Sch40 Food Grade Incoming City Water Piping

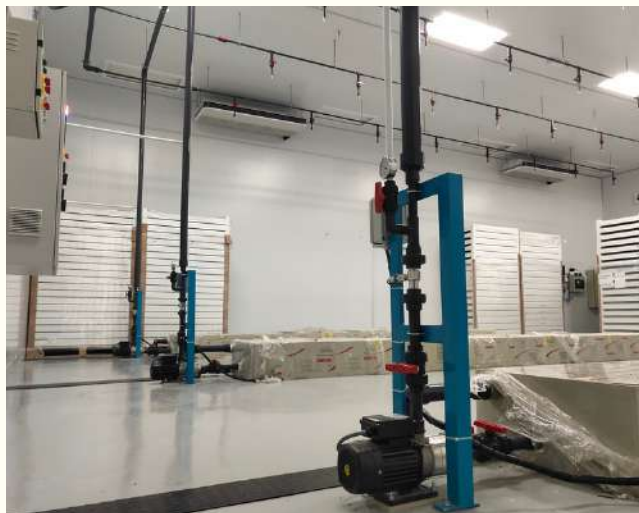
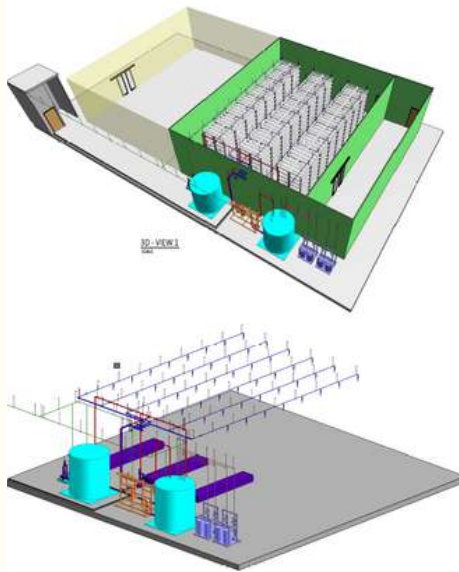


SS316 is the standard for any food or chemical processing plant due to its non-reactive chemical resistance. Eliminating process changes & reliable for ensuring the consistency of quality.



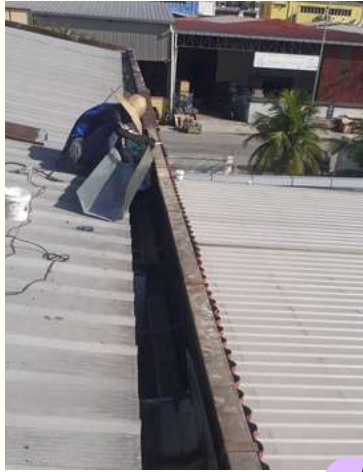
Industrial Utility Piping

PVC Eslon Sch80 Food Grade Piping for Nutrients Processing



PVC Eslon possess high withstanding resistance from chemical attack. Recommended for any applications requiring low-level contamination & maintaining consistency in water source.

Factory maintenance & civil upgrade



Metal rain gutter installation



Civil concrete construction



Road line painting

Outdoor repaint & Indoor facilities refurbishment



PRODUCT & SERVICES

ELECTRICAL WORKS



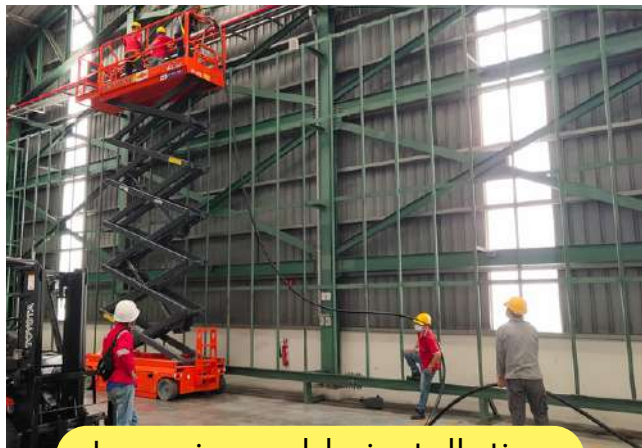
Types of Cable?

Single PVC
PVC/PVC
PVC/PVC/SWA
XLPE/PVC
XLPE/PVC/SWA/PVC
Armored Cable
Low Voltage Power Cable
Instrumental Control Cable
Fire Resistant Cable

ELECTRICAL SERVICES WE PROVIDE

High & Low Voltage Electrical
Distribution Board Installation
Switchboard Installation
Closed Circuit Television System
Public Address System
Card Access Security System
Fire Alarm System
Power & Lighting System
Production Line System
Facilities Wiring Work
Maintenance Wiring Work
ACMV Electrical System
Air Con Servicing

Electrical Works



Incoming cable installation

Air con servicing



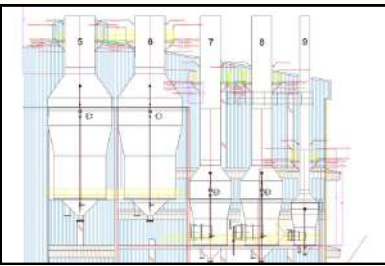
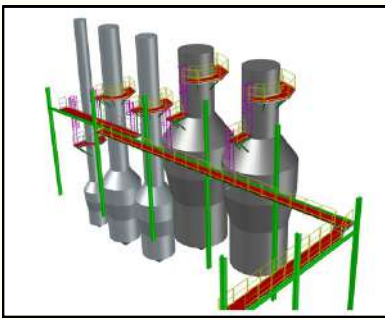
Megger insulation test



Electrical Cabling

PRODUCT & SERVICES

STEEL STRUCTURE DESIGN & BUILD



Types of Steel?



Material

- Mild steel
- Carbon steel
- Stainless steel
- Alloy steel
- Galvanized
- Metal

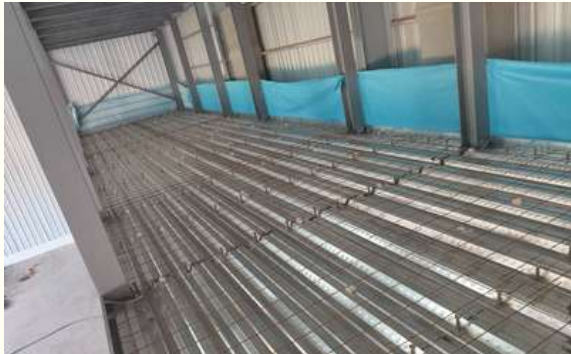
STEEL STRUCTURE WE DESIGNED

- Mezzanine Platform
- Awning Structure
- Monkey Ladder
- Metal staircase
- Hand railing
- Steel Door
- Metal Shelving Rack

Steel Structure design & build



Mezzanine Floor & Platform



Roof Awning



Steel Structure



Spiral Staircase



Fire Staircase

Operation & Quality Control

ENCS Engineering SDN BHD has a strong range of support services that back all of our projects including comprehensive design and build capabilities, clean room & cold room construction, air conditioning services of HVAC system & all piping design system.

Our design engineering team works with unparalleled determination to create air conditioning system or any other M & E services of various configuration and sizes for a variety of applications, specifications and scientific disciplines. We analyse the client's situation, resources and needs, and then develop a control and mechanical system best suited for the application.

From planning to completion, our draughting team prepares all computer generated drawings utilizing the latest Autocad software programme. We believe in working closely with our customers to transform ideas from problems to design solutions. By pooling our resources, we ensure that all projects are completed in the shortest possible time with quality assurance controlled and with all the necessary clearances and approval by the authorities.

ENCS

OUR CUSTOMERS

Food Processing Industry



Automotive Industry



PERODUA



TOYOTA



Semi Conductor Industry



Printing & Packaging Industry



THONG GUAN INDUSTRIES BERHAD



Healthcare Industry



Steel Industry



Main Contractor



ENCs

ENGINEERING SDN BHD

Head office:

98, Jalan Intan 1, Taman Puchong Intan,
47100 Puchong, Selangor

Puchong Workshop:

26, Jalan TPP 5/3, Taman Perindustrian
Puchong 5&6, 47100 Puchong, Selangor

Rawang Workshop

No. 9, Jalan Cempaka Utama, Taman
Anugerah Suria, 48000 Rawang, Selangor

Johor Office:

No. 47, Jalan Bunga Dahlia, Taman Masai,
81750 Masai, Johor

Senawang Office:

No 7, Jalan Andalas 1, Kawasan Perindustrian
Ringan Andalas, 70450, Seremban, Negeri
Sembilan



www.encs.com.my



03-80616716 / 03-80613693



encssb@gmail.com