

LIFT SAFETY FEATURES

ABD.JAMAL OTHMAN
JURUTERA MEKANIKAL

- **SPEED GOVERNOR**

To prevent lift over-speeding.

- Electrical - not exceed 115% speed.
- Mechanical - not exceed 125% speed.

- **BUFFER**

Spring or oil, to stop lift car and/or counterweight over-travel downwards.

- Spring Type - below 1 m/s.
- Oil Type - above 1m/s.

- **SAFETY GEAR**

- Mechanical clamping device locating on the car.
- Stops the lift if it over-speed in the downwards direction (clamp the guide rail)

- **OVER-RUN CLAMP**

To keep the lift within a fixed upper and lower limits. Will stop the lift if the limits are exceeded.

- **BRAKE**

To stop the lift when reached at each floor. Stops the lift if system failure.

- WORM GEAR

Non slipping even when machine is not running.

- THERMIC DEVICES

In motor windings to prevent overheating of motor.

- ELECTRICAL FUSES

Prevent overloading of electrical equipment and components.

- ROPES

Sufficient ropes with generous safety factor to prevent any mishap, 10 - 15 % safety factor.

- Rope diameter not less than 40 (1:40, drive sheave). Common sizes 8-22mm dia.
- Method of terminating (bulldog grip, swaged end, socket end).

- **OVERLOAD NON-START**

Micro switches beneath lift platform to prevent starting of lift when it's overload.

- **DOOR INTERLOCK**

To ensure both car and landing doors are fully closed before the lift starts moving. This is an electro-mechanical interlock.

- **DOOR SAFETY SHOE / SENSOR**

Retractable shoe, light ray, electronic door to prevent closure of doors when an (object or a person) is present between the doors.

- **WEIGHT CLOSER**

A rope weight system to close a landing door by gravity when the car door is not engaged.

- **ATTENDANT KEY**

Kunci pada COP yang boleh mengambil alih (*over-write*) kawalan pergerakan lift car turun/naik.

- **INDEPENDENT SERVICE CONTROL**

- Untuk lift khas (VIP).
- Kawalan masuk (excess) dengan kad atau kod button.

- FIRE ALARM MODE DEVICES

- Memberhentikan operasi biasa lift.
- Dilengkapi baterai yang berupaya untuk ;
 - *Menyalakan lampu & kipas dalam lift car.
 - *Menurunkan lift car ke aras terdekat atau lantai lobi dan membuka pintu.

- **LIFT INTERCOM SYSTEM & BELL**
 - Alat perhubungan antara dalam lift car, bilik motor dan bilik kawalan (3-ways).
 - Amat berguna sewaktu berlaku situasi penumpang terperangkap dalam lift car.
 - 'Bell button' pada COP juga boleh digunakan.

- **AUTOMATIC RESCUE DEVICES**

- Sistem tersendiri (c/w individual controller, battery, charger, etc).
- Berfungsi bila tiada bekalan elektrik pada sistem lift (*change-over* mengikut aturan).
- Menghidup lampu dan kipas dalam lift car, menurunkannya ke aras terhampir, dan seterusnya membuka pintu.

- BACK-UP SUPPLY BY GENSET

- *'Incoming change-over panel'* untuk genset.
- Sistem lift akan berfungsi seperti biasa menggunakan bekalan elektrik dari genset.
- Tempoh sela-masa 'changer-over' boleh dilaraskan.

**SEKIAN
TERIMA KASIH**