明志科技大學
MING CHI UNIVERSITY OF TECHNOLOGY

四技部工讀實務實習
101 年成果發表展示會

工作項目

A. About the Motor：

01) Brush Check & Measure. 02) AC & DC Motor Starter & Start Method.
03) Current Density of Motor. 04) About Torque Motor.
05) Simple Electrical & Mechanical of Maintenance Learning.
(AC & DC M Construction, Bearing, Alignment Shimming, Vibration, Insulation)

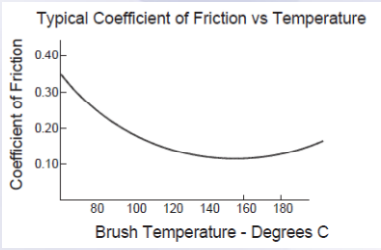
B. Professional Software & Microsoft Office： C. Training & Other：

01) AutoCad. 02) AS400. 03) PC Backup. 01) ISO. 02) Safety. 03) Department.

內容摘要

Current Density Introduction:

It is a measure of the density of electrical current. It is an important consideration in the design of an electrical system. Most electrical conductors (i.e. carbon brushes) have a finite, positive resistance, making them dissipate power in the form of heat. Current density must be kept sufficiently low to prevent the conductor from melting.



實習成果

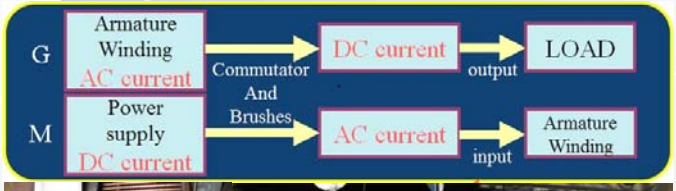
Current Density of Motor:

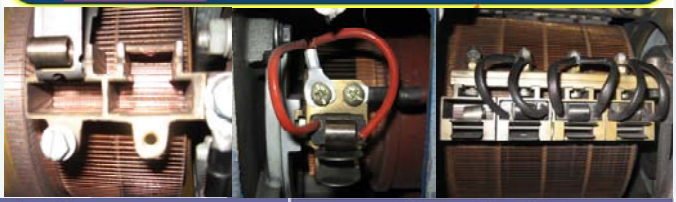
EXTRUDER: CO-Extruder 2	
A. Rated Voltage :	520 V
B. Rated Current :	334 A
C. Brush Quantity :	12
D. Brush Thickness :	11 mm
E. Brush Width :	25 mm
F. Current Density :	130.596

CASTING: XE05 Chill roll	
A. Rated Voltage :	460 V
B. Rated Current :	8 A
C. Brush Quantity :	2
D. Brush Thickness :	10 mm
E. Brush Width :	15.5 mm
F. Current Density :	33.299

TDO: TDO	
A. Rated Voltage :	460 V
B. Rated Current :	479 A
C. Brush Quantity :	16
D. Brush Thickness :	11 mm
E. Brush Width :	25 mm
F. Current Density :	140.469

Brush Measure & Burn & Holder:



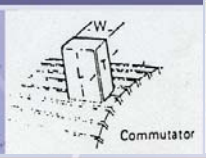


Calculating of Current Density:

To calculate the current density, we need to know:

$$\text{DC Motor's current density} = \frac{I}{0.5 \times \#B \times B_T \times B_W}$$

1) Operating current. → I
2) Number of brushes. → #B
3) Brush thickness. → B_T
4) Brush width. → B_W



Current Density:

High	Low
Commutator	Film
Blacken life	Commutator
Brush life	Brush

Striped

電機工程

INTEPLAST GROUP
World of Plastics

實習單位：Inteplast
實習廠區：BOPP E. Maint.
實習期間：100/09/23～101/09/22

姓名：蔡博中 輔導老師：張嘉德 老師 指導主管：James Deng