HarnWare
Training Agenda

TE Connectivity

Contents

Scope

This training agenda gives a guide to the structure of the HarnWare course and indicates the amount of time spent on each section. In addition to the major topics given in the agenda instruction will be given in all other HarnWare functions:

- Wire size advice

- Harness systems advice

- HarnWare Help, web links, product data sheets

- Export options

- Drawing translation

- Printing options

- Harness drawing tools

TE Connectivity

Day 1
Introduction

8:30 – 8:50 (20mins)	**Introduction**

Welcome to HarnWare Training.
Introduction of Trainer.
Health and Safety statement.
Overview of coming 3 days including breaks, refreshments etc.

8:50 – 9:30 (40mins)	**Basic Microsoft Visio functions and commands used with Harnware**

Open and Save files.
Templates, Stencils and drawings.
Short Cut Keys

Example 1 - Point to Point Cable - Unshielded

9:30-10:15 (45mins)	**Introduces material systems, wire and tube selection. Material System 10.**

Basic Visio using HarnWare stencils and shapes

Creating a harness without connectors to explain the basics of HarnWare

Using primary wire with a common gauge

Produce standard cable lays

Wire Routing

Creating a Parts List and itemising drawing

Labour Estimating

Break - 15 Mins

Example 2 - Point to Point Cable - Unshielded

10:30 - 11:00 (30mins)	**Similar to Example 1, allows trainee to practise. Material System 100.**

Creating a harness without connectors

Using primary wire with a common gauge

Produce standard cable lays

Wire Routing

Creating a Parts List and itemising drawing

Labour Estimating

TE Connectivity

Example 3 - Branched Harness - Unshielded

**11:00 - 12:00
(60mins)**   **Introduces moulded parts and adhesives.
Material System 25.**

Creating a 3 legged Y branch harness without connectors, adding more basic

Using primary wire with the same gauge

Produce standard cable lays

Wire Routing

Creating a Parts List and itemising drawing

Labour Estimating

Lunch - 45 Mins

**12:45 - 13:00
(15mins)**   **Review morning Tasks and Questions**

Example 4 - Branched Harness - Shielded

**13:00 - 14:00
(60mins)**   **Introduces shielding products and processes.
Material system 25.**

Creating a 3 legged Y branch harness without connectors, using more HarnWare tools

Using mixed wire types

Create complex cable lays

Wire Routing

Select overlap shield termination method

Creating a Parts List and itemising drawing

Labour Estimating

Example 5 - Branched Harness - Shielded

**14:00 – 15:00
(60mins)**   **Similar to Example 4, allows trainee to
practise. Material System 25.**

Creating a 3 legged T branch harness without connectors, using more HarnWare tools

Using mixed wire types

Create complex cable lays

Wire Routing

Select Braid Tape shield termination method

Creating a Parts List and itemising drawing

Labour Estimating

TE Connectivity

Break – 15 mins

Example 6 – Converting Example 1 to a Harness

15:15 – 16:45 (90mins)	**Introduces connectors, adaptors, marker sleeves, adhesives and more moulded parts.**
	Converting Example 1 from a cable to a harness
	Wire Routing
	Creating a Parts List and itemising drawing
	Labour Estimating
	Adding non Tyco components
	Use design checker
	Add marker page
	Generate a wiring schematic
	Add COP Listing
	Weight Estimates
	Drawing Borders
	Dimension line
	Keyway symbol
	Export Parts List
16:45 - 17:00 (15mins)	**Review of Day 1 Tasks and Questions**

TE Connectivity

Day 2

Introduction

8:30 - 8:45 (15mins)	**Recap on Day 1 Tasks and Questions.**
	Overview of Day 2 tasks

Example 7 – Converting Example 2 to a Harness

8:45 - 10:15 (90mins)	**Introduces more connectors, adaptors, marker sleeves, adhesives and moulded parts.**
	Converting Example 2 from a harness with flying leads to a harness with connectors
	Creating a Parts List and itemising drawing
	Labour Estimating
	Adding non Tyco components
	Use design checker
	Add marker page
	Generate a wiring schematic and schedule
	Weight Estimate
	Add COP Listing
	Export parts list

Break - 15 Mins

Example 8 – Adding Connectors to Example 4

10:30 – 12:00 (90mins)	**Introduces more connectors, adaptors, marker sleeves, adhesives and moulded parts.**
	Converting Example 4 from a harness with flying leads to a harness with connectors.
	Wire Routing
	Creating a Parts List and itemising drawing
	Labour Estimating
	Adding non Tyco components
	Use design checker
	Add Materials and Equipment Listing
	Generate a wiring schematic
	Generate RoHS Listing

TE Connectivity

Lunch – 45 mins

12:45 - 13:00 (15mins)   **Review morning Tasks and Questions**

Example 10 - Splicing

13:00 – 14:00 (60mins)   **Introduces crimp splicing and connectors with pre-installed adaptors.**

Wire Routing

Creating a Parts List and itemising drawing

Generate a wiring schematic

Example 11 – RF Harness

14:00 – 15:00 (60mins)   **Introduces RF connectors with non TE cable.**

Wire Routing

Creating a Parts List and itemising drawing

Generate a wiring schematic

Break - 15 Mins

Cable Lays – Standalone Examples

15:15 – 16:15 (60mins)   **Introduces use of HarnWare to select cable lays as standalone function.**

Using Braid and Tube Form to create cable lays

Examples 12, 13 and 14 - Converting to Machine Built Cables

16:15 – 17:00 (45mins)   **Introduces the multicore cable database and converting hand lay constructions to multicore cables. Also introduces the multi core cable analyser.**

Convert Example 6 to Multicore Cable

Convert Example 7 to Multicore Cable

Convert Example 3 to Multicore Cable

17:00 - 17:15 (15mins)   **Review of Day 2 Tasks and Questions**

Day 3

Introduction

8:30 - 8:45 (15mins)	**Recap on Day 2 Tasks and Questions.**
	Overview of Day 3 tasks

Example 9 - Adding Connectors to Example 5

8:45 – 10.30 (90mins)	**Introduces more connectors, adaptors, marker sleeves, adhesives and moulded parts. Allows trainees to practice what they have learnt on day 1 and 2.**
	Converting Example 4 from a harness with flying leads to a harness with connectors
	Wire Routing
	Creating a Parts List and itemising drawing
	Labour Estimating
	Use design checker
	Generate a wiring schematic
	Weigh the harness

Break - 15 Mins

Example 9 - Continued

10:45 – 11.15 (30mins)	**Introduces more connectors, adaptors, marker sleeves, adhesives and moulded parts. Allows trainees to practice what they have learnt on day 1 and 2.**

Example 15 – Converting Example 8 Using Multi-Outlet Shapes

11:15 – 12:15 (60mins)	**Introduces Multi-Outlet shapes.**
	Converting Example 8 from a hand laid branched harness to a multi-outlet design using multi-outlet shapes

TE Connectivity

Wire Routing

Creating a Parts List and itemising drawing

Labour Estimating

Weigh the harness

Lunch – 45 mins

**13:00 - 13:15
(15mins)**   **Review morning Tasks and Questions**

Composite Parts List

**13:15 – 13.45
(30mins)**   **Introduces the composite parts listing tool.**

Create a composite parts list and export.

Standalone HarnWare

**13.45 – 14:00
(30mins)**   **Introduces HarnWare standalone for selecting
harness components and designing cable
lays.**

Selection of Parts

Links to SCD's

Overview of Help section links

Product catalogue

Microsoft Visio Shapes and Templates

**14:00 – 15:00
(60mins)**   **Introduces creation of Microsoft Visio Shape
and Template.**

Create simple connector shape

Create a simple drawing Template

Break – 15 mins

**15:15 - 16:15
(60mins)**   **Review of 3 Days and Questions**

	Address outstanding issues
	Hand out Course Evaluation Form
	Hand out HarnWare Software, certificates etc.

Finish