

# HYAT53 communication cable technical requirements

## 1.General

Conductor	Solid-Bare annealed copper
Insulation	HDPE
Twisting	2 wires twisted
Cable Structure	25 pairs of basic unit
Composition of cable core	Each unit core Wrapped with single color ribbon
Filling	Core waterblocking Grease
Cable core wrapping	Wrapped with one polyester tape and one Water Blocking Swellable tape , or Wrapped with two polyester tape
Moistureproof belt	Total thickness of 0.25mm APL,non-corrugated Aluminium tape
Inner Sheath	Black LDPE
Steel-plastic composite with	Longitudinal wrap With 0.25mm Co-Polyester Coated Steel tape , corrugated Steel
Out sheath	Black LDPE
Surface Printing	It will be printed as customer's requirement with batch produce.
Packing	Metal drum, Sealing Packaging, No fumigation

## 2.Cable Core Structure and Sheath Thickness

Conductor Nom. O.D. (mm)	Pairs	Cable Structure		Inner Sheath Thickness (min)mm	Out Sheath Thickness (min)mm
		First	Second		
0.40 mm	10	2+8		1.2	1.8
	20	1+6+13		1.2	1.8
	30	(8+9+8)+5		1.2	1.8
	50	(12+13)*2		1.2	1.8
	100	4*25		1.2	1.8
	200	4*50		1.2	1.8
	300	1*50	5*50	1.2	1.8
	400	4*100		1.2	1.8

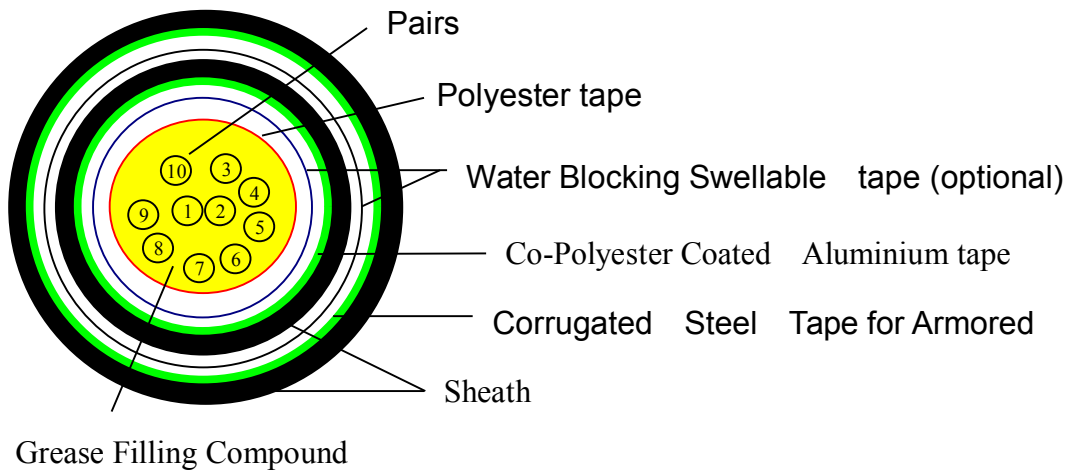
Conductor Nom. O.D. (mm)	Pairs	Cable Structure		Inner Sheath Thickness (min)mm	Out Sheath Thickness (min)mm
		First	Second		
0.50 mm	10	2+8		1.2	1.8
	20	1+6+13		1.2	1.8
	30	(8+9+8)+5		1.2	1.8
	50	(12+13)*2		1.2	1.8
	100	4*25		1.2	1.8
	200	4*50		1.2	1.8
	300	1*50	5*50	1.2	1.8
	400	4*100		1.2	1.8

### 3. Insulation Chromatogram

Number	Insulation Chromatogram	Number	Insulation Chromatogram
1	White-blue	14	Black-brown
2	White-orange	15	Black-grey
3	White-green	16	Yellow-blue
4	White-brown	17	Yellow-orange
5	White-grey	18	Yellow-green
6	Red-blue	19	Yellow-brown
7	Red-orange	20	Yellow-grey
8	Red-green	21	Purple-blue
9	Red-brown	22	Purple-orange
10	Red-grey	23	Purple-green
11	Black-blue	24	Purple-brown
12	Black-orange	25	Purple-grey
13	Black-green		

#### 4. Electrical Performance Requirements

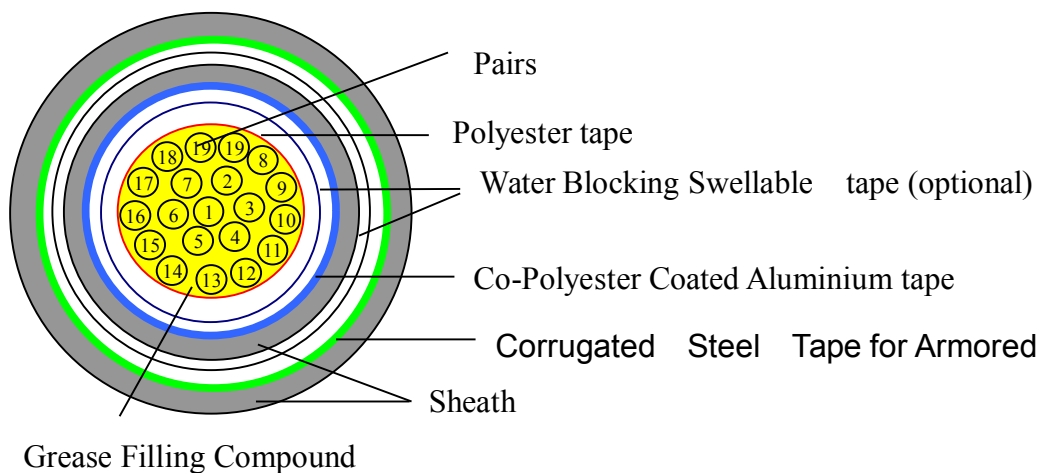
Item	0.40mm	0.50mm
Direct Current Resistance of Single conductor (Maximum) ohm/km	148.0	98.0
Imbalance of Direct Current Resistance to pair (Maximum) %	5.0	
Insulation resistance of each single insulated conductor to other conductors shield DC 500V (M·ohm/km)	>3000	
Working Capacitance (800Hz/km) nF/km Maximum	10 pairs ≤58 >10 pairs ≤57	
Pair to pair capacitance unbalance(800Hz/300m) pF/km Maximum	≤250	
Electrical Strength DC Sustainable Time Between conductor and conductor Between conductor and shield	1min 1KV 3KV	

**5. Structure Drawing**
**(一) 10 Pairs Cable Structure**


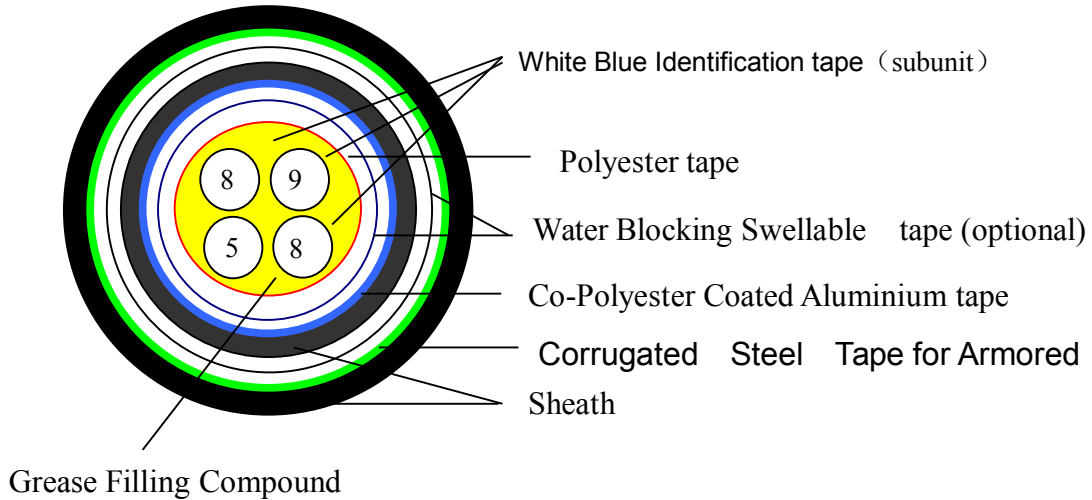
2+8
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**2. Ribbon Chromatogram**

Pair Number	Ribbon Chromatogram	Pair Number	Ribbon Chromatogram
1	White Blue	6	Red Blue
2	White Orange	7	Red Orange
3	White Green	8	Red Green
4	White Brown	9	Red Brown
5	White Grey	10	Red Grey

**(二)、20 Pairs Cable Structure**


1+6+13
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**(三)、30 Pairs Cable Structure**
**1、Structure**


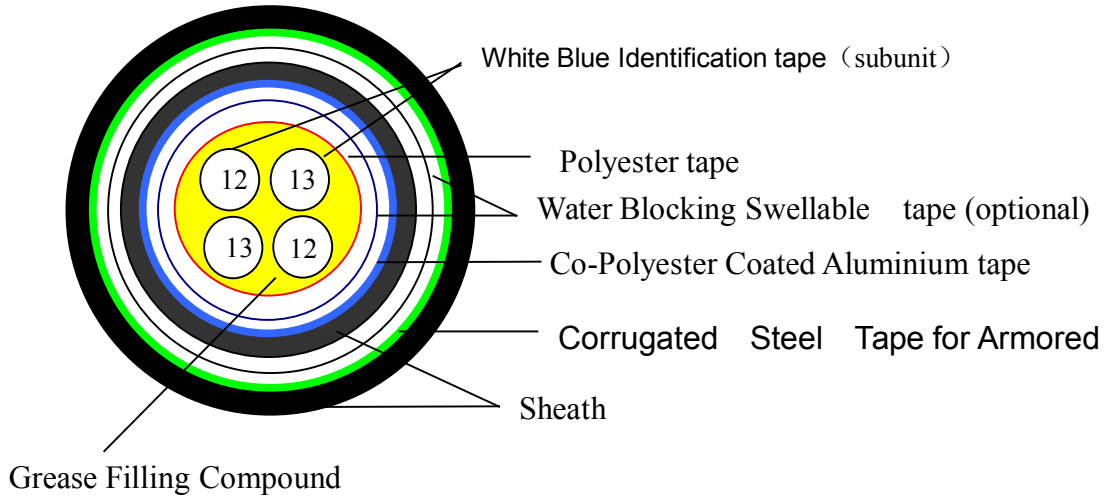
$$(8+9+8)+5$$

**2、Ribbon Chromatogram**

Subunit Number	Pairs Number	Ribbon Chromatogram
1	8	White Blue
2	9	White Blue
3	8	White Blue
4	5	White Orange

## (四)、50 Pairs Cable Structure

## 1、Structure



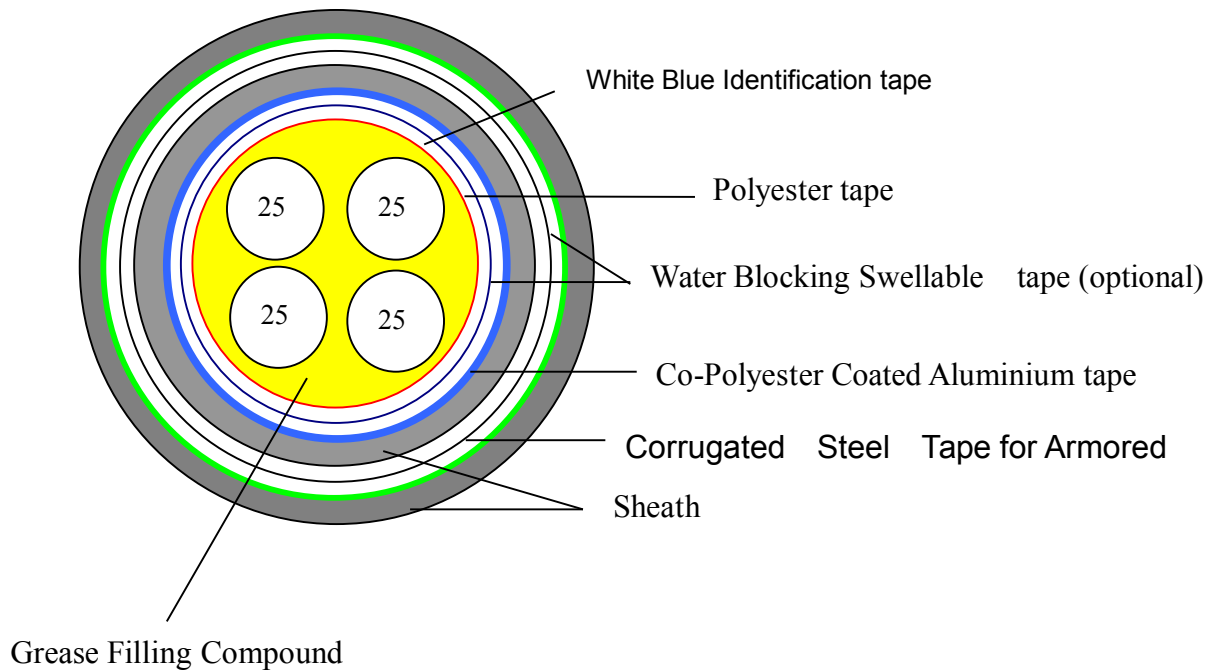
(12+13)×2
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## 3、Ribbon Chromatogram

Subunit Number	Pairs Number	Ribbon Chromatogram
1	12	White Blue
2	13	White Blue
3	12	White Orange
4	13	White Orange

(五)、100 Pairs Cable Structure

1、Structure



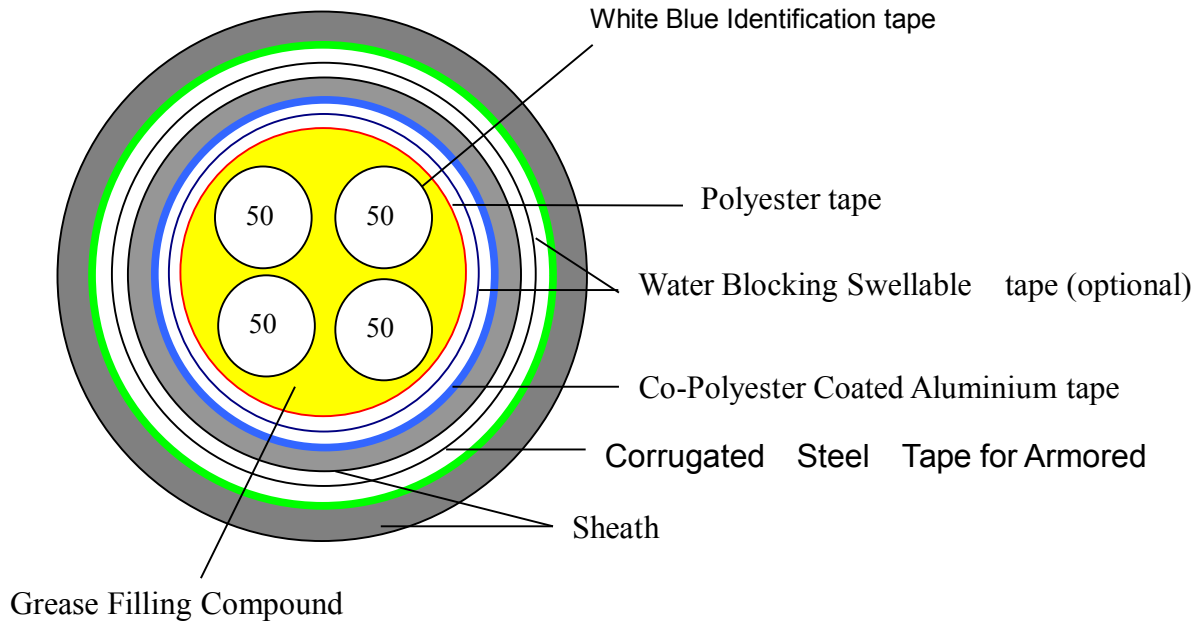
4 × 25

2、 Unit Number and Ribbon Chromatogram

Unit Number	Ribbon Chromatogram
1	White Blue
2	White Orange
3	White Green
4	White Brown

4、 spare pair: White Red

## (六)、200 Pairs Cable Structure

**1、Structure**

 $4 \times 50$ 
**2、Unit Number and Ribbon Chromatogram**

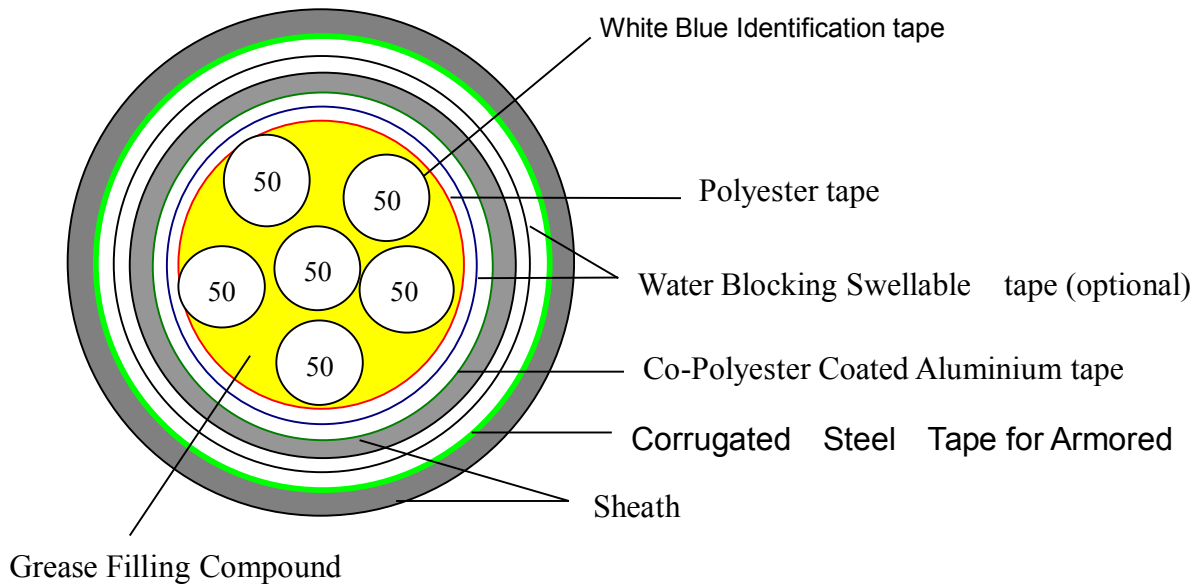
Unit Number	Ribbon Chromatogram
1	White Blue
2	White Orange
3	White Green
4	White Brown

**3、 Spare Pairs number: White Red、White Black**



## (八)、300 Pairs Cable Structure

### 1、Structure



6×50

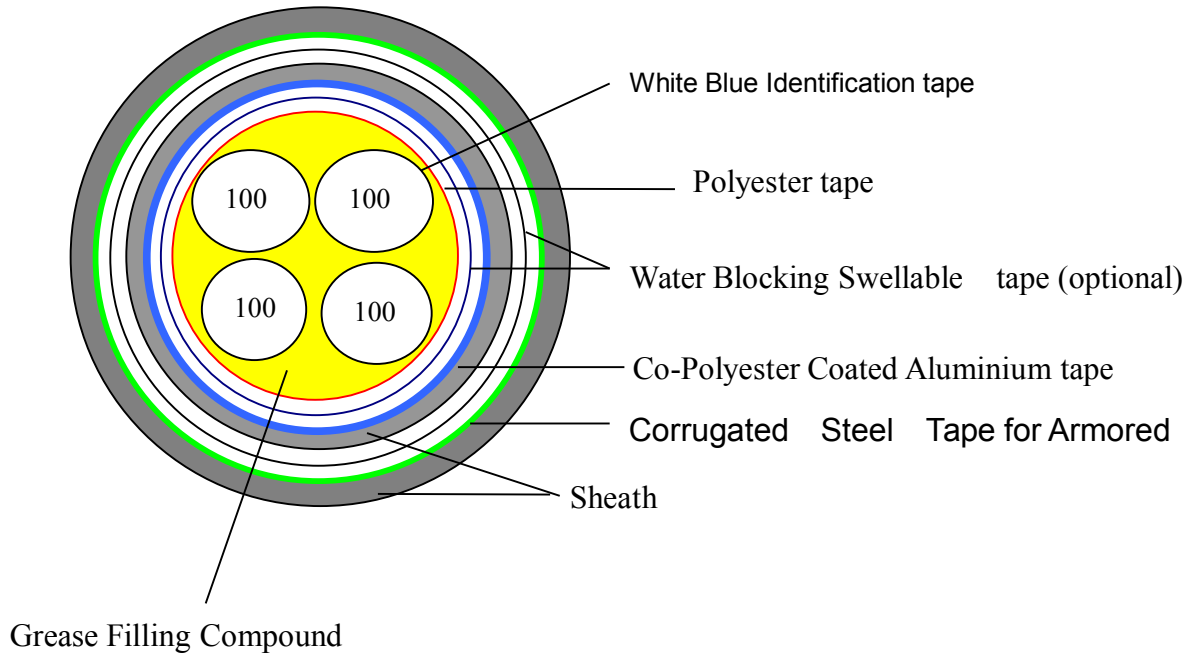
### 2、Unit Number and Ribbon Chromatogram

Unit Number	Ribbon Chromatogram
1	White Blue
2	White Orange
3	White Green
4	White Brown
5	White Grey
6	Red Blue

### 3、Spare Pairs number: White Red、White Black、White Yellow

## (九)、400 Pairs Cable Structure

### 1、Structure



4 × 100

### 2、Unit Number and Ribbon Chromatogram

Unit Number	Ribbon Chromatogram
1	White Blue
2	White Orange
3	White Green
4	White Brown

### 3、Spare Pairs number: White Red、White Black、White Yellow、White Pink.