

شركة نبراس المعدن للصناعة NIPRAS METAL INDUSTRY Co.

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UBIĻĒ NOISIV المملكة العربية السعودية KINGDOM OF SAUDI ARABIA

CABLE TRUNK CATALOGUE.















NIPRAS Best Practice Guide to cable ladder and Cable Tray Systems including channel support systems and other associated supports.

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In case of any questions or remarks, feel free to contact the R&D Department via www.nipras.sa

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### **ABOUT US**

Nipras Metal Group is a diversified private enterprise and a Saudi organization established in 2010 with a vision to be a preferred partner for our valuable clients in supplying quality and cost effective building construction and Architectural engineering solutions. Since the establishment of Nipras, we have been partnered with major organizations in the kingdom to consistently serve their projects and, we have engaged closely with many key contractors and consultants by meeting their expectations in providing high-quality and certified construction and Architectural products. Nipras group operates its business units from three divisions in manufacturing, supplying and sub-contracting of various Architectural products such as Roof Hatch Access, Gratings, Railings, Raised Floors, Garbage Chute System, Cable tray management solutions, and all types of stainless steel & metal fabrication and other building construction materials. The company has two production lines of Architectural products and cable management systems.

At **Nipras** we always strive hard to supply and meet our client's requirements with high-quality products quickly and efficiently. The company adopts modern management concept, adheres to survival by quality and development by integrity, and gradually boarded the local competition platform. We rely on service to enhance the client relationship, sincerely create value for customers, and provide customers with high-quality and reliable products and wholehearted service. Our company has advanced production equipment which guarantees the most advantageous product quality and efficiency.

Nipras is accredited through various quality certifications and standards meeting all project's technical criteria and consultant approvals. We are an ISO-1519 certified company to ensure the quality, safety, and efficiency of our products. We gain trust of our existing clients and new customers with the best products, the best quality, competitive price and the most perfect service.

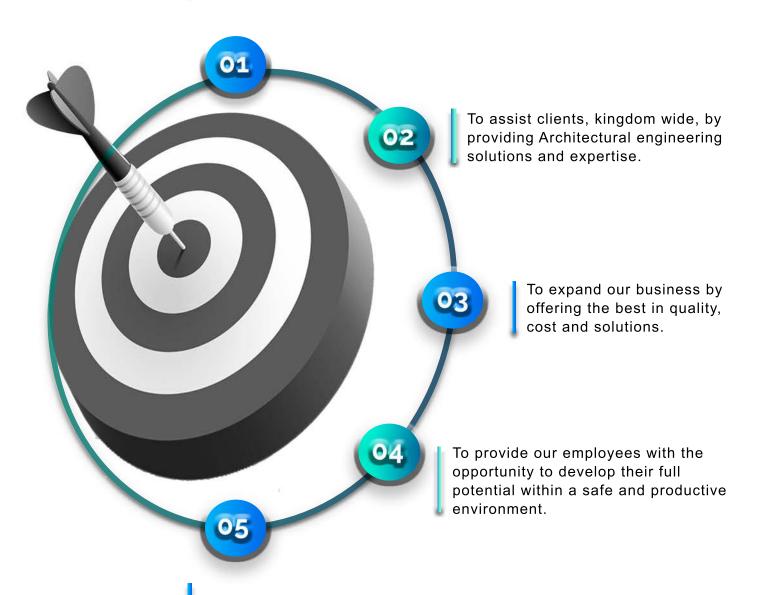


Nipras strives to strengthen its manufacturing base in the steel industry to serve the kingdom and contribute to its vision through effective utilization of staff and materials with cutting-edge technology and high productivity, consistent with modern management practices.



To be a preferred partner for our valuable customers and consistently exceeds our customer's needs and expectations in quality, delivery, and cost through continuous improvement and enhancing customer satisfaction. We go all out to manufacture, deliver and supply superior steel and metal products to our clients utilizing sustainable procedures that meet the international standards.

The aim of **NIPRAS** is to fabricate steel and metal work in the construction sector by the development of standards to turn raw metal into Architectural engineering solutions that can be used in construction.



To seek a competitive advantage by developing partnerships with clients, suppliers and subcontractors.

## **OBJECTIVES**



### Riyadh Gate Industrial City Al-Musafa district 6353

https://www.google.com/maps?q=24.4828100,46.8915030&hl=en-SA&gl=sa&entry=gps&g\_ep=CAISBjYuMzQuMxgAINe



# Research & Development

**R & D** refers to two intertwined processes of research (to identify new knowledge and ideas) and development (turning the ideas into tangible products or processes)



Our Research and development (R&D) department includes activities that we undertake to innovate and introduce new products and services.





# Nipras R&D's mission is to:

Develop products that create value for customers and expand the use of NIPRAS products worldwide..

Improve NIPRAS competitiveness by developing new industrial processes – and optimising existing ones – to reduce cost and improve quality..

Contribute to sustainable development by reducing the environmental impact of products and processes.

Continuously upgrade NIPRAS scientific knowledge and attract technical talent.



Technical Division is entrusted with the work in respect of various subjects of technical nature via Research & Development, Energy & Environment Management, Standardization & Quality Control of products, etc. The work being dealt with by this division may be grouped under few categories namely:



- Research & Development in Metal & Steel Fabrication.
- Technical Regulations on the Products to promote quality.
- Technical Inputs on the ongoing / future products etc.







Lead with Engineers and other professionals at NIPRAS TECHNICAL DEPARTMENT, we access a vast array of advanced, highly sophisticated testing, modelling, failure analysis and other resources to develop the next generation of products, where the future is born.

# **SOCIAL RESPONSIBILITY**



We "NIPRAS" ability to sense, understand and react to others emotions while comprehending on social networks. (Social awareness which encompasses the competency of empathy is the ability to read nonverbal cues for negative emotions, particularly anger and fear and to judge the trustworthiness of others.













It is about understanding others feelings, not experiencing them (Garner, 2009). NIPRAS accentuates on an individual's ability to identify, perceive and react to other's emotions while being a part of the social network circuitry. NIPRAS understand the ability to and be compassionate to the feelings, views, opinions and challenges of other people. Social-awareness cannot only be equated with understanding people's need but as well as caring for them (Goleman, 2006).



#### **EMPLOYEES**

At NIPRAS we empower our employees to leverage the corporate resources at their disposal to do well. Being a socially responsible company can bolster a company's image and build its brand.



### CIVIL SOCIETY

According to the Saudi Youth in Numbers report,

37% of the Saudi population is under 25. This entails
that the youth will play a more significant role in
undertaking the paths set by Vision 2030 and
inheriting the future it's attempting to build.

NIPRAS gives our platform to the young for
developing their sense of civic responsibility,
involvement, and interconnectedness.Opportunities
to equip the upcoming generation with the
necessary skills and motivation to become active
participants in their communities.

### **CUSTOMERS**

A business cannot work without consumer. The survival and growth of business depends on consumer satisfaction, service and support.

"NIPRAS" winning the confidence of our customers made it possible by following a positive attitude towards customers and fulfilling our social responsibilities by providing them:

- Quality
- Fair Prices
- Honest advertising
- After sales service
- Research & Development for their requirements
  - Safety
- Regular supply

#### ENVIRONMENT

NIPRAS understands the nature of the relationship between corporate adoption of the concept of societal responsibility [availability of environmental awareness, clear vision of the impact of societal responsibility on financial performance, managers informing employees of the latest developments in societal responsibility programs, managers' response to their corporate social responsibility (CSR) proposals] in the form of an annual report that supports the success of the company's objectives, the company's management encourages employees to participate collectively in societal responsibility programs and to protect the environment from pollution in the industry.

# **HEALTH & SAFETY**

"NIPRAS" as a manufacturing Company for Metal & Steel Products has a large number of hazards because of the strong internal as well as external forward and backward linkages in terms of material flows. Employees are to work in hazardous environment because of complicated equipment layouts, high temperatures, heavy equipment's, moving machinery, hazardous processes, heavy lifting and movements of materials in the work environment etc. Further, several operations involve working at heights or in confined spaces. In short, working involves both very high volume as well as the complexity of operations which results into employees getting exposed to a high level of health and safety risks.





The health, safety, and protection of our employees, equipment, and the environment are perfectly calculated and implied as a crucial since it affects both economic and social factors.. On the other hand, a healthy and safe workplace contributes towards plants competitiveness as well as in profit growth.

### **ADVANCED MACHINERY**













Standardized production lines meeting the complete requirements for the industry. Facility equipped with high end and advanced machinery "NIPRAS" serve our customers with topmost perfection. Our facility comprises with most high end technology where mentioned few are our key role players as - Laser Cutting / Sheering Machines, CNC Bending Machines, CNC Punching Machines, Auto Welding Sets and more.

#### MATERIALS Mild Steel - Plain

A. Hot rolled steel plates, sheets and coils s235 jr, As per :EN 10025-2 / DIN 17100 / BS 4360 / ASTM A653 I ASTM A 1011 ASTM A 1011-011-01 a/ JIS 3101 / JIS 3106 / GB 700 / T1 591ASTM A 907 / ASTM A 572 M.B. Cold Rolled Steel DC 01 , As per : EN 10130 / DIN 1623, Part 2 / BS 1449 :1 / ASTM A 1008 JIS G3141 / GB 699, EN 10131 / ASTM A 568M.



#### NOTE

\*Note: All outdated standards / codes are replaced with new/ latest versions and the final product shall comply with the latest version



#### MILD STEEL - Galvanized

C. Continuosly Pre-Galvanized Hot-Di pp Zinc Coated Steel DX 51 D +Z, As per :EN 10327 / DIN 17162 / BS 2989 / ASTM /A527M / ASTM A653 M JIS G 3302.EN 10326 / EN 10142 / ASTM A 526, 527, 528 /ASTM A 146 D. Electro Galvanized Steel ( Electrolytic Coating ) DC01 + ZE As per :EN 10152 / DIN 17163 / ASTM A591 / JIS G3313 JIS G3141 / BS 1449:1 / EN 10131.



#### NOTE

All outdated standards / codes are replaced with new/ latest versions and the final product shall comply with the latest version

#### STAINLESS STEEL

F. Austenitic Stainless Steels AISI 304 & 316 As per: ASTM A240 / EN 10088 - 2 / DIN 17400 / BS 1449-2 ASTM A480 / ASTM A666 / ISO 3506 / EN 10028-7 JIS G4304 F.1 Stainless Steel Fasteners EN 3506 F.2 Stainless Steel Wire BS 1554, ASTM A 27



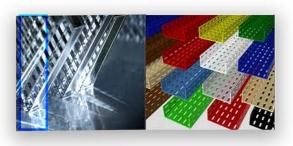
#### **ALUMINIUM**

G. Aluminium 5052 & 6063

\*Note: All outdated standards /
codes are replaced with
new/ latest versions and the final
product shall comply with the latest
version.

#### **FINISHES**

- 1. HOT DIP Galvanization After Fabrication As per :ASTM A 123 / ASTM A 153 / ISO 1461 BS 729 / DIN 50976 / BS EN 10143 / BS EN 10346
- 2. ZINC Electroplating After Fabrication As per : ASTM B633 / EN 12329 / ISO 4042 / BS 1706 / BS 3382 DIN 50961
- 3. Powder Coating Epoxy / Polyester / Epoxy & Polyester BS 3900 / 2409 / ISO 1519 / ISO 1520



All outdated standards / codes are replaced with new/ latest versions and the final product shall comply with the latest version

























### **CABLE MANAGEMENT SYSTEM**

Cable management is the organization of cables connected to electrical devices. This includes power cables, network cables, audio/video cables, and many others.

Managing cables is a key aspect of a clean and safe home or work environment.

NIPRAS METAL INDUSTRY Co. – Provides many cable support systems with specially designed supports that are easy to install and can support heavy duty cables along with others. Our best selling products are...

CABLE TRAY | CABLE LADDER | CABLE TRUNKS | CABLE BASKET ( WIRE )

Cable Trays provide the most ideal answer for concealing and protecting all types of cables that are available in various widths, heights and thickness. NIPRAS CABLE TRAY (NCT) fabricated by single sheet (slotted/plain) is without any welding, provides a continuous support for the standard/custom lengths.

Cable ladders are utilized where heavy weighted cables are to be supported over long runs and extended supported spans. NIPRAS CABLE LADDER (NCL) covers up these loads with our wide range from light to heavy duty.

Cable Trunking with good aesthetically pleasing option is widely used to cover up the cables and have the freedom of movement throughout the installed area.

NIPRAS CABLE TRUNK (NCTR) supplies the item with different standard/customised compartments within.

Wire Basket Tray System is an industry leading continuous cable basket and pathway support solution for today's high-performance cabling systems. Highly engineered features help ensure a secure installation that complies with industry codes and standards for high-performance cables. Clever design allows the installer to maximize field efficiency. NIPRAS BASKET TRAY (NBT) provides the perfect combination of performance, time savings and versatility required by today's DATACOM and electrical contractors.



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CABLE TRUNK













### **CABLE TRUNK**

Cable Trunking with good aesthetically pleasing option is widely used in laying any sensitive cables, instrument cables and light / heavy duty electrical cables for industrial and commercial buildings, malls, Airports etc. to cover up the cables and have the freedom of movement throughout the installed area. NIPRAS CABLE TRUNK (NCTR) supplies the item with different standard / customised compartments within.

Manufacturing Standards-BS EN 50085-1 -2005,BS EN 50085-2 -2006, SASO IEC (61084/2008), NEC (ANSI / NFPA 70), CSI Code 26 05 33

NOTE - BS 4678-1 surpassed by BS EN 50085-1-2005 and BS EN 50085-2-2006

### DIFFERENT TYPES OF PRODUCT DESIGNS













### Material & Finish - Pre-Galvanized, Hot Dip Galvanized and Stainless Steel:

- Available in 3m lengths Single, Double, Triple compartments with Lid and Coupler
- NIPRAS Cable Trunking comes in various thickness from 1.0mm, 1.5mm & 2mm.
- Widths ranges from 50mm, 75mm, 100mm, 150mm, 225mm, 300mm, 450mm, 600mm,750mm, 900mm,etc

Other dimensions are available upon request.

Finishes -Hot-dipped galvanized steel

Pre-galvanized (Mill Galvanized) steel Stainless steel 304,316 Coatings (BS or RAL number colour)



This **European Standard** specifies requirements and tests for cable trunking systems (CTS) and cable ducting systems (CDS) intended for the accommodation, and where necessary for the electrically protective separation, of insulated conductors, cables and possibly other electrical equipment in electrical and/or communication systems installations. The maximum voltage of these installations is 1 000 V a.c. and 1 500 V d.c.

This standard does not apply to conduit systems, cable tray systems, cable ladder systems, power track systems or equipment covered by other standards.

### Cable Trunking System (CTS)

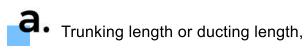
**Cable Ducting System (CDS)** 

Assembly comprising a *trunking length* and possibly other system components to provide an enclosure for the accommodation and laying in of insulated conductors and cables and possibly the accommodation of other electrical equipment.

Assembly comprising a *ducting length* and possibly other system components to provide an enclosure for the accommodation and drawing in of insulated conductors and cables and possibly the accommodation of other electrical equipment.

### SYSTEM COMPONENT

Part of the system which includes:





**e.** System accessory



### NOTE

A system does not necessarily include all system components a to e. Different combinations of system components may be used.



Trunking fitting or ducting fitting.



Apparatus mounting device.

#### TRUNKING LENGTH

Main component of a cable trunking system comprising a base with one or more access covers which may be opened or removed.

#### **DUCTING LENGTH**

Main component of a cable ducting system, characterized by a closed non-circular cross section.

#### **FITTING**

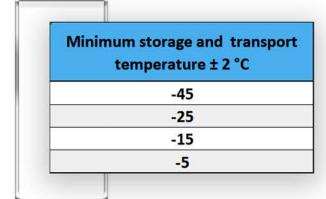
System component to connect, change direction or terminate trunking lengths or ducting lengths.

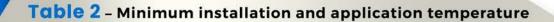
# **CLASSIFICATIONS**

6.2 Resistance to impact for installation and application: impact 2-03

6.3 According to temperatures as given in tables 1, 2 & 3.

## Table 1 - Minimum storage and transport temperature





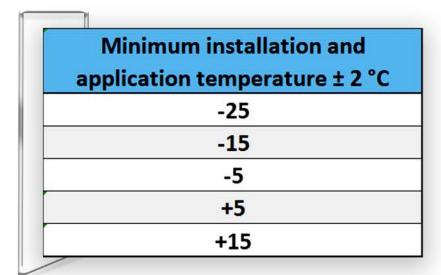


Table 3 - Maximum application temperature

Maxir	num Applicat	ion
tem	perature ± 2°	C
	+60	
	+90	
	+105	
	+120	



#### NOTE

The above application temperatures are operating temperatures and not ambient temperatures.



For each size of cable multiply the number to be installed by its own common factor. Add together the results of these calculations for all cable sizes.

The resulting sure should be equal to or less than the trunking capacity. It is recommended that each compartment should not be filled over 45% and the full capacity.

### **COMMON cable factors**

If the cable is not shown in the table below then the factor (area) can be calculated by:

Measuring diameter

Dividing diameter by 2 to give the radius Area =  $3.142 \times radius \times radius$ . E.g

4 mm diameter

 $3.142 \times 2 \times 2 = 12.6 \text{ mm}^2$ 

### **CABLE SIZE & FACTORS**

Cable size & factors : Power						
Type	Type Conductor size mm²					
Solid	1.5	8				
Solid	2.5	11.9				
Stranded	1.5	8.6				
Stranded	2.5	12.6				
Stranded	4.0	16.6				
Stranded	6.0	21.2				
Stranded	10.0	35.3				
Stranded	16.0	47.8				
Stranded	25.0	73.9				
Stranded	35.0	93.3				
Stranded	50.0	128.7				
Stranded	70.0	167.4				
Stranded	95.0	229.7				
Stranded	120.0	277.6				
Stranded	150.0	343.1				
Stranded	240.0	552.0				

Cable size & factors : Data					
Type Ø mm Fac					
5e UTP	5.5	30.2			
5e STP	6.0	36.0			
6 UTP	6.5	42.2			
6 STP	7.0	49.0			



# CABLE TRUNKING CAPACITY GUIDE

For each size of cable, multiply the number to be installed by the common factor. Add together the results of these calculations for all cable sizes. The correct trunking size must have a capacity factor equal to or greater than this total.

### TRUNKING SIZE & CAPACITY FACTORS







Trunking size & capacity factors					
Size (mm)	Capacity				
50 x 50	1037				
75 x 50	1555				
75 x 75	2371				
100 x 50	2091				
100 x 75	3189				
100 x 100	4252				
150 x 50	3091				
150 x 75	4742				
150 x 100	6394				
150 x 150	9697				
225 x 75	7114				
225 x 100	9298				
225 x 150	14652				
225 x 225	21766				
300 x 75	9486				
300 x 100	12788				
300 x 150	19447				
300 x 300	38000				

Minimum Trunking size required in this case is 1864 + 238 = 2102 which is  $100 \times 150$ .

#### SUPPORTING CABLE TRUNKING SYSTEMS

The connector between all types of cable trunking lengths is to provide electrical and mechanical connection between the lengths; it does not provide a load bearing connection between lengths. Consequently each length must be fully secured to the wall so that there is no significant bending force applied to the connector.

#### TRUNKING BODY

The trunking body has fixing points every 500 mm and 250 mm from each end It is recommended to secure at least every metre and near to joints / ends Use washers and dome head screws or plastic caps to avoid damage to cables. Do not over tighten Fit trunking body to wall ensuring it is level with preceding length and that joints are closely butted together. Once secured, install earthing coupler to trunking joint by simply pushing into place ensuring that the coupler is evenly distributed over both parts .For best results when cutting, use a fine tooth circular saw Cut edges must be de-burred to avoid cable damage.

#### DIVIDERS

The trunking can be divided into two or three compartments. Dividers are supplied in any desired lengths and have rolled edges for safety.

#### ELECTROMAGNETIC COMPATIBILITY (EMC)

Cable trunking and duct systems are considered passive under normal conditions in respect of electromagnetic influences. The installation of current carrying cables may cause emissions and these cables may also be influenced by electromagnetic signals from elsewhere, but the degree of influence will depend on the nature of the installation and the apparatus connected to the system. Specific information relating to the details of cable separation required according to the type of signal, and further information on the subject of EMC, is provided in the relevant Standards and Regulations. However, as a basic principle, if power and data cables are run in separate compartments of a metal trunking system, then the metal segregation will significantly reduce the possibility of one circuit having an undesirable effect upon another.

#### **FITTINGS**

Fittings (e.g. bends, tees) are installed in the same manner as the trunking body

#### EARTHING

NIPRAS trunking system is designed with parts that provide earth continuity when installed.



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CABLE TRUNK









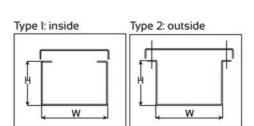




# SINGLE COMPARTMENT CABLE TRUNKING





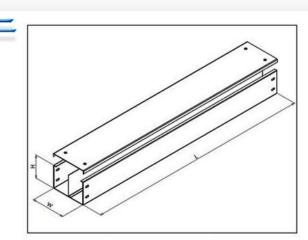


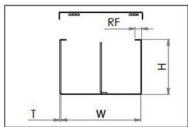


Available length & thickness 2440 mm / 3000 mm, Thickness 1.2-1.5 mm

	Single Compartment Cable Trunking - Length - 2440 mm / 3000 mm						
No.	1.44		Item C	odes			
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm		
50 x 50 mm	(2" x 2")	NCTR-1C-A	NCTR-1C-A1	NCTR-1C-A2	NCTR-1C-A3		
75 x 50 mm	(3" x 2")	NCTR-1C-B	NCTR-1C-B1	NCTR-1C-B2	NCTR-1C-B3		
75 x 75 mm	(3" x 3")	NCTR-1C-C	NCTR-1C-C1	NCTR-1C-C2	NCTR-1C-C3		
100 x 50 mm	(4" x 2")	NCTR-1C-D	NCTR-1C-D1	NCTR-1C-D2	NCTR-1C-D3		
100 x 75 mm	(4" x 3")	NCTR-1C-E	NCTR-1C-E1	NCTR-1C-E2	NCTR-1C-E3		
100 x 100 mm	(4" x 4")	NCTR-1C-F	NCTR-1C-F1	NCTR-1C-F2	NCTR-1C-F3		
150 x 50 mm	(6" x 2")	NCTR-1C-G	NCTR-1C-G1	NCTR-1C-G2	NCTR-1C-G3		
150 x 75 mm	(6" x 3")	NCTR-1C-H	NCTR-1C-H1	NCTR-1C-H2	NCTR-1C-H3		
150 x 100 mm	(6" x 4")	NCTR-1C-I	NCTR-1C-I1	NCTR-1C-I2	NCTR-1C-I3		
150 x 150 mm	(6" x 6")	NCTR-1C-J	NCTR-1C-J1	NCTR-1C-J2	NCTR-1C-J3		
200 x 100 mm	(8" x 4")	NCTR-1C-K	NCTR-1C-K1	NCTR-1C-K2	NCTR-1C-K3		
300 x 100 mm	(12" x 4")	NCTR-1C-L	NCTR-1C-L1	NCTR-1C-L2	NCTR-1C-L3		
450 x 100 mm	(18" x 4")	NCTR-1C-M	NCTR-1C-M1	NCTR-1C-M2	NCTR-1C-M3		
600 x 100 mm	(24" x 4")	NCTR-1C-N	NCTR-1C-N1	NCTR-1C-N2	NCTR-1C-N3		









Available length & thickness 2440 mm / 3000 mm, Thickness 1.2-1.5 mm

C	Double Compartment Cable Trunking - Length - 2440 mm / 3000 mm						
B	at the	Item Codes					
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm		
50 x 50 mm	(2" x 2")	NCTR-2C-A	NCTR-2C-A1	NCTR-2C-A2	NCTR-2C-A3		
75 x 50 mm	(3" x 2")	NCTR-2C-B	NCTR-2C-B1	NCTR-2C-B2	NCTR-2C-B3		
75 x 75 mm	(3" x 3")	NCTR-2C-C	NCTR-2C-C1	NCTR-2C-C2	NCTR-2C-C3		
100 x 50 mm	(4" x 2")	NCTR-2C-D	NCTR-2C-D1	NCTR-2C-D2	NCTR-2C-D3		
100 x 75 mm	(4" x 3")	NCTR-2C-E	NCTR-2C-E1	NCTR-2C-E2	NCTR-2C-E3		
100 x 100 mm	(4" x 4")	NCTR-2C-F	NCTR-2C-F1	NCTR-2C-F2	NCTR-2C-F3		
150 x 50 mm	(6" x 2")	NCTR-2C-G	NCTR-2C-G1	NCTR-2C-G2	NCTR-2C-G3		
150 x 75 mm	(6" x 3")	NCTR-2C-H	NCTR-2C-H1	NCTR-2C-H2	NCTR-2C-H3		
150 x 100 mm	(6" x 4")	NCTR-2C-I	NCTR-2C-I1	NCTR-2C-I2	NCTR-2C-I3		
150 x 150 mm	(6" x 6")	NCTR-2C-J	NCTR-2C-J1	NCTR-2C-J2	NCTR-2C-J3		
200 x 100 mm	(8" x 4")	NCTR-2C-K	NCTR-2C-K1	NCTR-2C-K2	NCTR-2C-K3		
300 x 100 mm	(12" x 4")	NCTR-2C-L	NCTR-2C-L1	NCTR-2C-L2	NCTR-2C-L3		
450 x 100 mm	(18" x 4")	NCTR-2C-M	NCTR-2C-M1	NCTR-2C-M2	NCTR-2C-M3		
600 x 100 mm	(24" x 4")	NCTR-2C-N	NCTR-2C-N1	NCTR-2C-N2	NCTR-2C-N3		



## TRIPLE COMPARTMENT CABLE TRUNKING



Triple Compartment Cable Trunking - Length - 2440 mm / 3000 mm						
Dimensions	See All		Item C	odes		
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mn	
50 x 50 mm	(2" x 2")	NCTR-3C-A	NCTR-3C-A1	NCTR-3C-A2	NCTR-3C-A3	
75 x 50 mm	(3" x 2")	NCTR-3C-B	NCTR-3C-B1	NCTR-3C-B2	NCTR-3C-B3	
75 x 75 mm	(3" x 3")	NCTR-3C-C	NCTR-3C-C1	NCTR-3C-C2	NCTR-3C-C3	
100 x 50 mm	(4" x 2")	NCTR-3C-D	NCTR-3C-D1	NCTR-3C-D2	NCTR-3C-D3	
100 x 75 mm	(4" x 3")	NCTR-3C-E	NCTR-3C-E1	NCTR-3C-E2	NCTR-3C-E3	
100 x 100 mm	(4" x 4")	NCTR-3C-F	NCTR-3C-F1	NCTR-3C-F2	NCTR-3C-F3	
150 x 50 mm	(6" x 2")	NCTR-3C-G	NCTR-3C-G1	NCTR-3C-G2	NCTR-3C-G3	
150 x 75 mm	(6" x 3")	NCTR-3C-H	NCTR-3C-H1	NCTR-3C-H2	NCTR-3C-H3	
150 x 100 mm	(6" x 4")	NCTR-3C-I	NCTR-3C-I1	NCTR-3C-I2	NCTR-3C-I3	
150 x 150 mm	(6" x 6")	NCTR-3C-J	NCTR-3C-J1	NCTR-3C-J2	NCTR-3C-J3	
200 x 100 mm	(8" x 4")	NCTR-3C-K	NCTR-3C-K1	NCTR-3C-K2	NCTR-3C-K3	
300 x 100 mm	(12" x 4")	NCTR-3C-L	NCTR-3C-L1	NCTR-3C-L2	NCTR-3C-L3	
450 x 100 mm	(18" x 4")	NCTR-3C-M	NCTR-3C-M1	NCTR-3C-M2	NCTR-3C-M3	
600 x 100 mm	(24" x 4")	NCTR-3C-N	NCTR-3C-N1	NCTR-3C-N2	NCTR-3C-N3	



شركة نبراس المعدن للصناعة NIPRAS METAL INDUSTRY Co.





LĘT NOISIA المملكة العربية السعودية KINGDOM OF SAUDI ARABIA

CABLE TRUNK FITTINGS.









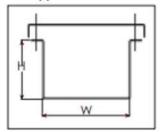




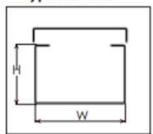


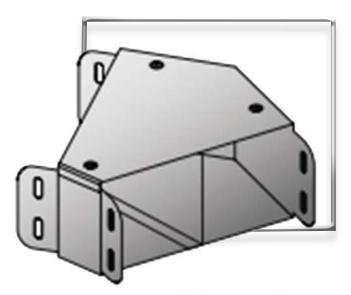


Type 2: outside



Type I: inside



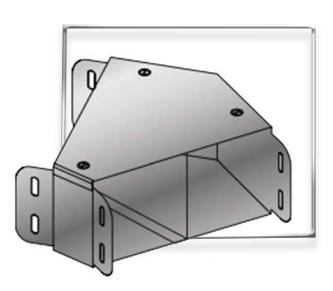


cornered / curved

	Bend 45 ° Top Lid for Single Compartment						
Dii	la de	Item Codes					
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm		
50 x 50 mm	(2" x 2")	NHB-45-T1-A	NHB-45-T1-A1	NHB-45-T1-A2	NHB-45-T1-A3		
75 x 50 mm	(3" x 2")	NHB-45-T1-B	NHB-45-T1-B1	NHB-45-T1-B2	NHB-45-T1-B3		
75 x 75 mm	(3" x 3")	NHB-45-T1-C	NHB-45-T1-C1	NHB-45-T1-C2	NHB-45-T1-C3		
100 x 50 mm	(4" x 2")	NHB-45-T1-D	NHB-45-T1-D1	NHB-45-T1-D2	NHB-45-T1-D3		
100 x 75 mm	(4" x 3")	NHB-45-T1-E	NHB-45-T1-E1	NHB-45-T1-E2	NHB-45-T1-E3		
100 x 100 mm	(4" x 4")	NHB-45-T1-F	NHB-45-T1-F1	NHB-45-T1-F2	NHB-45-T1-F3		
150 x 50 mm	(6" x 2")	NHB-45-T1-G	NHB-45-T1-G1	NHB-45-T1-G2	NHB-45-T1-G3		
150 x 75 mm	(6" x 3")	NHB-45-T1-H	NHB-45-T1-H1	NHB-45-T1-H2	NHB-45-T1-H3		
150 x 100 mm	(6" x 4")	NHB-45-T1-I	NHB-45-T1-I1	NHB-45-T1-I2	NHB-45-T1-I3		
150 x 150 mm	(6" x 6")	NHB-45-T1-J	NHB-45-T1-J1	NHB-45-T1-J2	NHB-45-T1-J3		
200 x 100 mm	(8" x 4")	NHB-45-T1-K	NHB-45-T1-K1	NHB-45-T1-K2	NHB-45-T1-K3		
300 x 100 mm	(12" x 4")	NHB-45-T1-L	NHB-45-T1-L1	NHB-45-T1-L2	NHB-45-T1-L3		
450 x 100 mm	(18" x 4")	NHB-45-T1-M	NHB-45-T1-M1	NHB-45-T1-M2	NHB-45-T1-M3		
600 x 100 mm	(24" x 4")	NHB-45-T1-N	NHB-45-T1-N1	NHB-45-T1-N2	NHB-45-T1-N3		

## **BEND 45 ° TOP LID FOR DOUBLE COMPARTMENT**





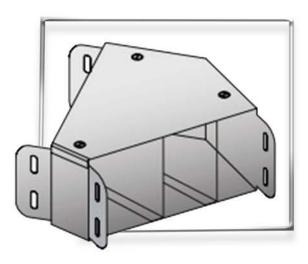
cornered / curved

	Bend 45 ° Top Lid for Double Compartment							
Discontinue	Lands:	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-45-T2-A	NHB-45-T2-A1	NHB-45-T2-A2	NHB-45-T2-A3			
75 x 50 mm	(3" x 2")	NHB-45-T2-B	NHB-45-T2-B1	NHB-45-T2-B2	NHB-45-T2-B3			
75 x 75 mm	(3" x 3")	NHB-45-T2-C	NHB-45-T2-C1	NHB-45-T2-C2	NHB-45-T2-C3			
100 x 50 mm	(4" x 2")	NHB-45-T2-D	NHB-45-T2-D1	NHB-45-T2-D2	NHB-45-T2-D3			
100 x 75 mm	(4" x 3")	NHB-45-T2-E	NHB-45-T2-E1	NHB-45-T2-E2	NHB-45-T2-E3			
100 x 100 mm	(4" x 4")	NHB-45-T2-F	NHB-45-T2-F1	NHB-45-T2-F2	NHB-45-T2-F3			
150 x 50 mm	(6" x 2")	NHB-45-T2-G	NHB-45-T2-G1	NHB-45-T2-G2	NHB-45-T2-G3			
150 x 75 mm	(6" x 3")	NHB-45-T2-H	NHB-45-T2-H1	NHB-45-T2-H2	NHB-45-T2-H3			
150 x 100 mm	(6" x 4")	NHB-45-T2-I	NHB-45-T2-I1	NHB-45-T2-I2	NHB-45-T2-I3			
150 x 150 mm	(6" x 6")	NHB-45-T2-J	NHB-45-T2-J1	NHB-45-T2-J2	NHB-45-T2-J3			
200 x 100 mm	(8" x 4")	NHB-45-T2-K	NHB-45-T2-K1	NHB-45-T2-K2	NHB-45-T2-K3			
300 x 100 mm	(12" x 4")	NHB-45-T2-L	NHB-45-T2-L1	NHB-45-T2-L2	NHB-45-T2-L3			
450 x 100 mm	(18" x 4")	NHB-45-T2-M	NHB-45-T2-M1	NHB-45-T2-M2	NHB-45-T2-M3			
600 x 100 mm	(24" x 4")	NHB-45-T2-N	NHB-45-T2-N1	NHB-45-T2-N2	NHB-45-T2-N3			

## **BEND 45 ° TOP LID FOR TRIPLE COMPARTMENT**







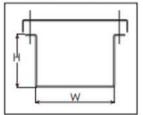
# cornered / curved

	Bend 45 ° Top Lid for Triple Compartment							
Dimensions	leade	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-45-T3-A	NHB-45-T3-A1	NHB-45-T3-A2	NHB-45-T3-A3			
75 x 50 mm	(3" x 2")	NHB-45-T3-B	NHB-45-T3-B1	NHB-45-T3-B2	NHB-45-T3-B3			
75 x 75 mm	(3" x 3")	NHB-45-T3-C	NHB-45-T3-C1	NHB-45-T3-C2	NHB-45-T3-C3			
100 x 50 mm	(4" x 2")	NHB-45-T3-D	NHB-45-T3-D1	NHB-45-T3-D2	NHB-45-T3-D3			
100 x 75 mm	(4" x 3")	NHB-45-T3-E	NHB-45-T3-E1	NHB-45-T3-E2	NHB-45-T3-E3			
100 x 100 mm	(4" x 4")	NHB-45-T3-F	NHB-45-T3-F1	NHB-45-T3-F2	NHB-45-T3-F3			
150 x 50 mm	(6" x 2")	NHB-45-T3-G	NHB-45-T3-G1	NHB-45-T3-G2	NHB-45-T3-G3			
150 x 75 mm	(6" x 3")	NHB-45-T3-H	NHB-45-T3-H1	NHB-45-T3-H2	NHB-45-T3-H3			
150 x 100 mm	(6" x 4")	NHB-45-T3-I	NHB-45-T3-I1	NHB-45-T3-I2	NHB-45-T3-I3			
150 x 150 mm	(6" x 6")	NHB-45-T3-J	NHB-45-T3-J1	NHB-45-T3-J2	NHB-45-T3-J3			
200 x 100 mm	(8" x 4")	NHB-45-T3-K	NHB-45-T3-K1	NHB-45-T3-K2	NHB-45-T3-K3			
300 x 100 mm	(12" x 4")	NHB-45-T3-L	NHB-45-T3-L1	NHB-45-T3-L2	NHB-45-T3-L3			
450 x 100 mm	(18" x 4")	NHB-45-T3-M	NHB-45-T3-M1	NHB-45-T3-M2	NHB-45-T3-M3			
600 x 100 mm	(24" x 4")	NHB-45-T3-N	NHB-45-T3-N1	NHB-45-T3-N2	NHB-45-T3-N3			

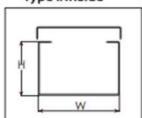
## **BEND 45 ° INSIDE LID FOR SINGLE COMPARTMENT**

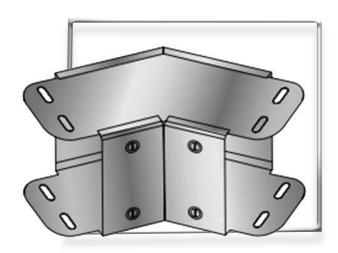


Type 2: outside



Type I: inside



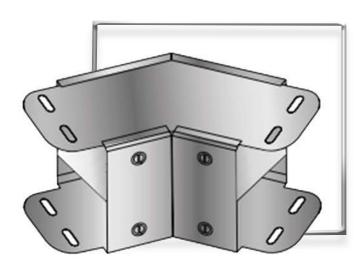


cornered / curved

	Bend 45°	Inside Lid for Single	Compartment			
Dimensions	lands	Item Codes				
Dimensions	sions Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm	
50 x 50 mm	(2" x 2")	NHB-45-I1-A	NHB-45-I1-A1	NHB-45-I1-A2	NHB-45-I1-A3	
75 x 50 mm	(3" x 2")	NHB-45-I1-B	NHB-45-I1-B1	NHB-45-I1-B2	NHB-45-I1-B3	
75 x 75 mm	(3" x 3")	NHB-45-I1-C	NHB-45-I1-C1	NHB-45-I1-C2	NHB-45-I1-C3	
100 x 50 mm	(4" x 2")	NHB-45-I1-D	NHB-45-I1-D1	NHB-45-I1-D2	NHB-45-I1-D3	
100 x 75 mm	(4" x 3")	NHB-45-I1-E	NHB-45-I1-E1	NHB-45-I1-E2	NHB-45-I1-E3	
100 x 100 mm	(4" x 4")	NHB-45-I1-F	NHB-45-I1-F1	NHB-45-I1-F2	NHB-45-I1-F3	
150 x 50 mm	(6" x 2")	NHB-45-I1-G	NHB-45-I1-G1	NHB-45-I1-G2	NHB-45-I1-G3	
150 x 75 mm	(6" x 3")	NHB-45-I1-H	NHB-45-I1-H1	NHB-45-I1-H2	NHB-45-I1-H3	
150 x 100 mm	(6" x 4")	NHB-45-I1-I	NHB-45-I1-I1	NHB-45-I1-I2	NHB-45-I1-I3	
150 x 150 mm	(6" x 6")	NHB-45-I1-J	NHB-45-I1-J1	NHB-45-I1-J2	NHB-45-I1-J3	
200 x 100 mm	(8" x 4")	NHB-45-I1-K	NHB-45-I1-K1	NHB-45-I1-K2	NHB-45-I1-K3	
300 x 100 mm	(12" x 4")	NHB-45-I1-L	NHB-45-I1-L1	NHB-45-I1-L2	NHB-45-I1-L3	
450 x 100 mm	(18" x 4")	NHB-45-I1-M	NHB-45-I1-M1	NHB-45-I1-M2	NHB-45-I1-M3	
600 x 100 mm	(24" x 4")	NHB-45-I1-N	NHB-45-I1-N1	NHB-45-I1-N2	NHB-45-I1-N3	

### **BEND 45 ° INSIDE LID FOR DOUBLE COMPARTMENT**



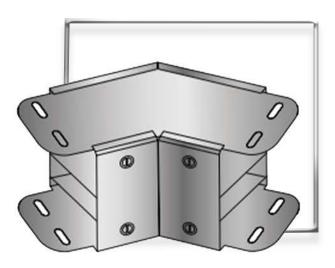


# cornered / curved

	Bend 45 ° Inside Lid for Double Compartment						
Dimensions	Inch	Item Codes					
		Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm		
50 x 50 mm	(2" x 2")	NHB-45-12-A	NHB-45-I2-A1	NHB-45-12-A2	NHB-45-I2-A3		
75 x 50 mm	(3" x 2")	NHB-45-I2-B	NHB-45-I2-B1	NHB-45-12-B2	NHB-45-12-B3		
75 x 75 mm	(3" x 3")	NHB-45-I2-C	NHB-45-I2-C1	NHB-45-I2-C2	NHB-45-12-C3		
100 x 50 mm	(4" x 2")	NHB-45-12-D	NHB-45-I2-D1	NHB-45-12-D2	NHB-45-12-D3		
100 x 75 mm	(4" x 3")	NHB-45-I2-E	NHB-45-I2-E1	NHB-45-I2-E2	NHB-45-I2-E3		
100 x 100 mm	(4" x 4")	NHB-45-I2-F	NHB-45-I2-F1	NHB-45-I2-F2	NHB-45-I2-F3		
150 x 50 mm	(6" x 2")	NHB-45-12-G	NHB-45-I2-G1	NHB-45-12-G2	NHB-45-12-G3		
150 x 75 mm	(6" x 3")	NHB-45-I2-H	NHB-45-I2-H1	NHB-45-12-H2	NHB-45-12-H3		
150 x 100 mm	(6" x 4")	NHB-45-I2-I	NHB-45-I2-I1	NHB-45-12-12	NHB-45-12-13		
150 x 150 mm	(6" x 6")	NHB-45-12-J	NHB-45-I2-J1	NHB-45-12-J2	NHB-45-I2-J3		
200 x 100 mm	(8" x 4")	NHB-45-I2-K	NHB-45-I2-K1	NHB-45-12-K2	NHB-45-I2-K3		
300 x 100 mm	(12" x 4")	NHB-45-I2-L	NHB-45-I2-L1	NHB-45-I2-L2	NHB-45-12-L3		
450 x 100 mm	(18" x 4")	NHB-45-12-M	NHB-45-I2-M1	NHB-45-I2-M2	NHB-45-I2-M3		
600 x 100 mm	(24" x 4")	NHB-45-I2-N	NHB-45-I2-N1	NHB-45-I2-N2	NHB-45-I2-N3		

### **BEND 45 ° INSIDE LID FOR TRIPLE COMPARTMENT**





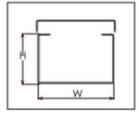
# cornered / curved

Bend 45 ° Inside Lid for Triple Compartment						
Dimensions	Inch	Item Codes				
		Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm	
50 x 50 mm	(2" x 2")	NHB-45-13-A	NHB-45-I3-A1	NHB-45-13-A2	NHB-45-I3-A3	
75 x 50 mm	(3" x 2")	NHB-45-13-B	NHB-45-I3-B1	NHB-45-13-B2	NHB-45-I3-B3	
75 x 75 mm	(3" x 3")	NHB-45-13-C	NHB-45-I3-C1	NHB-45-I3-C2	NHB-45-I3-C3	
100 x 50 mm	(4" x 2")	NHB-45-I3-D	NHB-45-I3-D1	NHB-45-13-D2	NHB-45-I3-D3	
100 x 75 mm	(4" x 3")	NHB-45-I3-E	NHB-45-I3-E1	NHB-45-I3-E2	NHB-45-I3-E3	
100 x 100 mm	(4" x 4")	NHB-45-I3-F	NHB-45-I3-F1	NHB-45-I3-F2	NHB-45-13-F3	
150 x 50 mm	(6" x 2")	NHB-45-I3-G	NHB-45-I3-G1	NHB-45-I3-G2	NHB-45-I3-G3	
150 x 75 mm	(6" x 3")	NHB-45-13-H	NHB-45-I3-H1	NHB-45-13-H2	NHB-45-I3-H3	
150 x 100 mm	(6" x 4")	NHB-45-I3-I	NHB-45-I3-I1	NHB-45-I3-I2	NHB-45-13-13	
150 x 150 mm	(6" x 6")	NHB-45-I3-J	NHB-45-I3-J1	NHB-45-I3-J2	NHB-45-13-J3	
200 x 100 mm	(8" x 4")	NHB-45-I3-K	NHB-45-I3-K1	NHB-45-I3-K2	NHB-45-I3-K3	
300 x 100 mm	(12" x 4")	NHB-45-13-L	NHB-45-I3-L1	NHB-45-I3-L2	NHB-45-I3-L3	
450 x 100 mm	(18" x 4")	NHB-45-13-M	NHB-45-I3-M1	NHB-45-I3-M2	NHB-45-I3-M3	
600 x 100 mm	(24" x 4")	NHB-45-I3-N	NHB-45-I3-N1	NHB-45-I3-N2	NHB-45-13-N3	

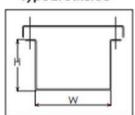
### **BEND 45 ° OUTSIDE LID FOR SINGLE COMPARTMENT**

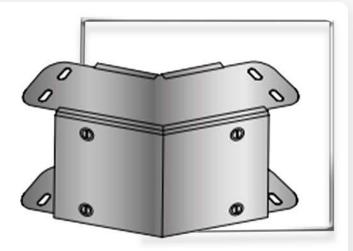


### Type I: inside



Type 2: outside



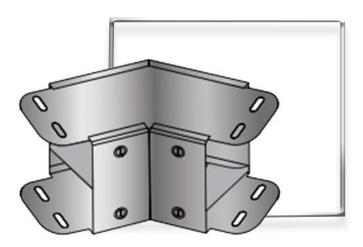


cornered / curved

Bend 45 ° Outside Lid for Single Compartment						
Dimensions	Inch	Item Codes				
		Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm	
50 x 50 mm	(2" x 2")	NHB-45-01-A	NHB-45-01-A1	NHB-45-O1-A2	NHB-45-O1-A3	
75 x 50 mm	(3" x 2")	NHB-45-O1-B	NHB-45-01-B1	NHB-45-O1-B2	NHB-45-O1-B3	
75 x 75 mm	(3" x 3")	NHB-45-01-C	NHB-45-01-C1	NHB-45-O1-C2	NHB-45-O1-C3	
100 x 50 mm	(4" x 2")	NHB-45-01-D	NHB-45-01-D1	NHB-45-O1-D2	NHB-45-O1-D3	
100 x 75 mm	(4" x 3")	NHB-45-01-E	NHB-45-01-E1	NHB-45-O1-E2	NHB-45-O1-E3	
100 x 100 mm	(4" x 4")	NHB-45-01-F	NHB-45-01-F1	NHB-45-O1-F2	NHB-45-O1-F3	
150 x 50 mm	(6" x 2")	NHB-45-01-G	NHB-45-01-G1	NHB-45-01-G2	NHB-45-01-G3	
150 x 75 mm	(6" x 3")	NHB-45-01-H	NHB-45-01-H1	NHB-45-O1-H2	NHB-45-01-H3	
150 x 100 mm	(6" x 4")	NHB-45-01-I	NHB-45-01-I1	NHB-45-O1-I2	NHB-45-01-I3	
150 x 150 mm	(6" x 6")	NHB-45-O1-J	NHB-45-01-J1	NHB-45-O1-J2	NHB-45-O1-J3	
200 x 100 mm	(8" x 4")	NHB-45-01-K	NHB-45-01-K1	NHB-45-O1-K2	NHB-45-O1-K3	
300 x 100 mm	(12" x 4")	NHB-45-01-L	NHB-45-01-L1	NHB-45-O1-L2	NHB-45-O1-L3	
450 x 100 mm	(18" x 4")	NHB-45-O1-M	NHB-45-O1-M1	NHB-45-O1-M2	NHB-45-O1-M3	
600 x 100 mm	( 24" x 4" )	NHB-45-01-N	NHB-45-01-N1	NHB-45-O1-N2	NHB-45-01-N3	

## BEND 45 ° OUTSIDE LID FOR DOUBLE COMPARTMENT



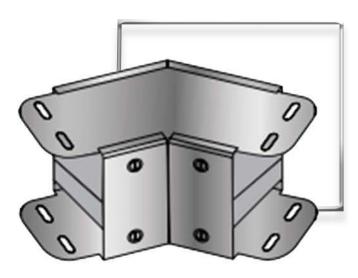


# cornered / curved

	Bend 45 ° Outside Lid for Double Compartment						
Dimensions	Inch	Item Codes					
		Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm		
50 x 50 mm	(2" x 2")	NHB-45-02-A	NHB-45-02-A1	NHB-45-O2-A2	NHB-45-O2-A3		
75 x 50 mm	(3" x 2")	NHB-45-O2-B	NHB-45-02-B1	NHB-45-O2-B2	NHB-45-O2-B3		
75 x 75 mm	(3" x 3")	NHB-45-02-C	NHB-45-02-C1	NHB-45-O2-C2	NHB-45-O2-C3		
100 x 50 mm	(4" x 2")	NHB-45-O2-D	NHB-45-O2-D1	NHB-45-O2-D2	NHB-45-O2-D3		
100 x 75 mm	(4" x 3")	NHB-45-02-E	NHB-45-02-E1	NHB-45-O2-E2	NHB-45-O2-E3		
100 x 100 mm	(4" x 4")	NHB-45-02-F	NHB-45-02-F1	NHB-45-O2-F2	NHB-45-O2-F3		
150 x 50 mm	(6" x 2")	NHB-45-02-G	NHB-45-O2-G1	NHB-45-O2-G2	NHB-45-O2-G3		
150 x 75 mm	(6" x 3")	NHB-45-02-H	NHB-45-O2-H1	NHB-45-O2-H2	NHB-45-O2-H3		
150 x 100 mm	(6" x 4")	NHB-45-02-I	NHB-45-02-I1	NHB-45-O2-I2	NHB-45-O2-I3		
150 x 150 mm	(6" x 6")	NHB-45-O2-J	NHB-45-02-J1	NHB-45-O2-J2	NHB-45-O2-J3		
200 x 100 mm	(8" x 4")	NHB-45-02-K	NHB-45-02-K1	NHB-45-O2-K2	NHB-45-O2-K3		
300 x 100 mm	(12" x 4")	NHB-45-02-L	NHB-45-02-L1	NHB-45-O2-L2	NHB-45-O2-L3		
450 x 100 mm	(18" x 4")	NHB-45-O2-M	NHB-45-O2-M1	NHB-45-O2-M2	NHB-45-02-M3		
600 x 100 mm	(24" x 4")	NHB-45-02-N	NHB-45-02-N1	NHB-45-O2-N2	NHB-45-02-N3		

## BEND 45 ° OUTSIDE LID FOR TRIPLE COMPARTMENT





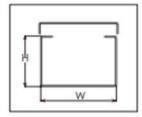
	Bend 45 ° Outside Lid for Triple Compartment							
Discontinue	in the	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-45-03-A	NHB-45-03-A1	NHB-45-O3-A2	NHB-45-O3-A3			
75 x 50 mm	(3" x 2")	NHB-45-O3-B	NHB-45-03-B1	NHB-45-O3-B2	NHB-45-O3-B3			
75 x 75 mm	(3" x 3")	NHB-45-03-C	NHB-45-03-C1	NHB-45-O3-C2	NHB-45-O3-C3			
100 x 50 mm	(4" x 2")	NHB-45-O3-D	NHB-45-03-D1	NHB-45-O3-D2	NHB-45-O3-D3			
100 x 75 mm	(4" x 3")	NHB-45-03-E	NHB-45-03-E1	NHB-45-O3-E2	NHB-45-O3-E3			
100 x 100 mm	(4" x 4")	NHB-45-03-F	NHB-45-03-F1	NHB-45-O3-F2	NHB-45-O3-F3			
150 x 50 mm	(6" x 2")	NHB-45-03-G	NHB-45-03-G1	NHB-45-O3-G2	NHB-45-O3-G3			
150 x 75 mm	(6" x 3")	NHB-45-O3-H	NHB-45-03-H1	NHB-45-O3-H2	NHB-45-O3-H3			
150 x 100 mm	(6" x 4")	NHB-45-O3-I	NHB-45-O3-I1	NHB-45-03-12	NHB-45-O3-I3			
150 x 150 mm	(6" x 6")	NHB-45-O3-J	NHB-45-O3-J1	NHB-45-O3-J2	NHB-45-O3-J3			
200 x 100 mm	(8" x 4")	NHB-45-O3-K	NHB-45-03-K1	NHB-45-O3-K2	NHB-45-O3-K3			
300 x 100 mm	(12" x 4")	NHB-45-03-L	NHB-45-03-L1	NHB-45-O3-L2	NHB-45-O3-L3			
450 x 100 mm	(18" x 4")	NHB-45-O3-M	NHB-45-O3-M1	NHB-45-O3-M2	NHB-45-O3-M3			
600 x 100 mm	(24" x 4")	NHB-45-03-N	NHB-45-03-N1	NHB-45-O3-N2	NHB-45-O3-N3			

## **BEND 90 ° TOP LID FOR SINGLE COMPARTMENT**

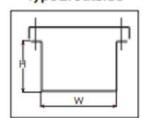


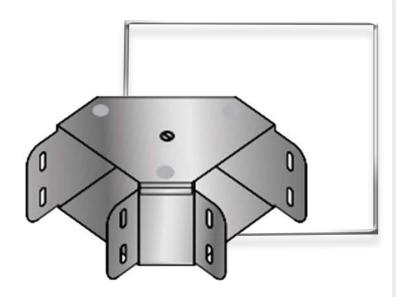


#### Type I: inside



Type 2: outside



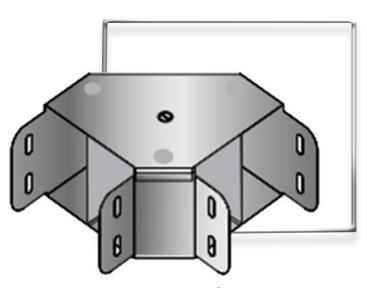


cornered / curved

	Bend 90° Top Lid for Single Compartment							
Nii	tests	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-90-T1-A	NHB-90-T1-A1	NHB-90-T1-A2	NHB-90-T1-A3			
75 x 50 mm	(3" x 2")	NHB-90-T1-B	NHB-90-T1-B1	NHB-90-T1-B2	NHB-90-T1-B3			
75 x 75 mm	(3" x 3")	NHB-90-T1-C	NHB-90-T1-C1	NHB-90-T1-C2	NHB-90-T1-C3			
100 x 50 mm	(4" x 2")	NHB-90-T1-D	NHB-90-T1-D1	NHB-90-T1-D2	NHB-90-T1-D3			
100 x 75 mm	(4" x 3")	NHB-90-T1-E	NHB-90-T1-E1	NHB-90-T1-E2	NHB-90-T1-E3			
100 x 100 mm	(4" x 4")	NHB-90-T1-F	NHB-90-T1-F1	NHB-90-T1-F2	NHB-90-T1-F3			
150 x 50 mm	(6" x 2")	NHB-90-T1-G	NHB-90-T1-G1	NHB-90-T1-G2	NHB-90-T1-G3			
150 x 75 mm	(6" x 3")	NHB-90-T1-H	NHB-90-T1-H1	NHB-90-T1-H2	NHB-90-T1-H3			
150 x 100 mm	(6" x 4")	NHB-90-T1-I	NHB-90-T1-I1	NHB-90-T1-I2	NHB-90-T1-I3			
150 x 150 mm	(6" x 6")	NHB-90-T1-J	NHB-90-T1-J1	NHB-90-T1-J2	NHB-90-T1-J3			
200 x 100 mm	(8" x 4")	NHB-90-T1-K	NHB-90-T1-K1	NHB-90-T1-K2	NHB-90-T1-K3			
300 x 100 mm	(12" x 4")	NHB-90-T1-L	NHB-90-T1-L1	NHB-90-T1-L2	NHB-90-T1-L3			
450 x 100 mm	(18" x 4")	NHB-90-T1-M	NHB-90-T1-M1	NHB-90-T1-M2	NHB-90-T1-M3			
600 x 100 mm	(24" x 4")	NHB-90-T1-N	NHB-90-T1-N1	NHB-90-T1-N2	NHB-90-T1-N3			

## BEND 90 ° TOP LID FOR DOUBLE COMPARTMENT



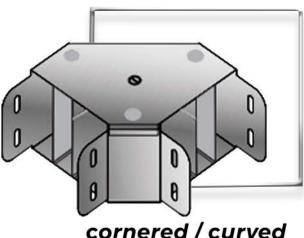


	Bend 90° Top Lid for Double Compartment							
Dimensions	desite.	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-90-T2-A	NHB-90-T2-A1	NHB-90-T2-A2	NHB-90-T2-A3			
75 x 50 mm	(3" x 2")	NHB-90-T2-B	NHB-90-T2-B1	NHB-90-T2-B2	NHB-90-T2-B3			
75 x 75 mm	(3" x 3")	NHB-90-T2-C	NHB-90-T2-C1	NHB-90-T2-C2	NHB-90-T2-C3			
100 x 50 mm	(4" x 2")	NHB-90-T2-D	NHB-90-T2-D1	NHB-90-T2-D2	NHB-90-T2-D3			
100 x 75 mm	(4" x 3")	NHB-90-T2-E	NHB-90-T2-E1	NHB-90-T2-E2	NHB-90-T2-E3			
100 x 100 mm	(4" x 4")	NHB-90-T2-F	NHB-90-T2-F1	NHB-90-T2-F2	NHB-90-T2-F3			
150 x 50 mm	(6" x 2")	NHB-90-T2-G	NHB-90-T2-G1	NHB-90-T2-G2	NHB-90-T2-G3			
150 x 75 mm	(6" x 3")	NHB-90-T2-H	NHB-90-T2-H1	NHB-90-T2-H2	NHB-90-T2-H3			
150 x 100 mm	(6" x 4")	NHB-90-T2-I	NHB-90-T2-I1	NHB-90-T2-I2	NHB-90-T2-I3			
150 x 150 mm	(6" x 6")	NHB-90-T2-J	NHB-90-T2-J1	NHB-90-T2-J2	NHB-90-T2-J3			
200 x 100 mm	(8" x 4")	NHB-90-T2-K	NHB-90-T2-K1	NHB-90-T2-K2	NHB-90-T2-K3			
300 x 100 mm	(12" x 4")	NHB-90-T2-L	NHB-90-T2-L1	NHB-90-T2-L2	NHB-90-T2-L3			
450 x 100 mm	(18" x 4")	NHB-90-T2-M	NHB-90-T2-M1	NHB-90-T2-M2	NHB-90-T2-M3			
600 x 100 mm	(24" x 4")	NHB-90-T2-N	NHB-90-T2-N1	NHB-90-T2-N2	NHB-90-T2-N3			



#### **BEND 90 ° TOP LID FOR TRIPLE COMPARTMENT**





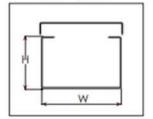
corr	nered /	curved

	Bend 90° Top Lid for Triple Compartment							
Dimensions	Inch	Item Codes						
Dimensions	inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-90-T3-A	NHB-90-T3-A1	NHB-90-T3-A2	NHB-90-T3-A3			
75 x 50 mm	(3" x 2")	NHB-90-T3-B	NHB-90-T3-B1	NHB-90-T3-B2	NHB-90-T3-B3			
75 x 75 mm	(3" x 3")	NHB-90-T3-C	NHB-90-T3-C1	NHB-90-T3-C2	NHB-90-T3-C3			
100 x 50 mm	(4" x 2")	NHB-90-T3-D	NHB-90-T3-D1	NHB-90-T3-D2	NHB-90-T3-D3			
100 x 75 mm	(4" x 3")	NHB-90-T3-E	NHB-90-T3-E1	NHB-90-T3-E2	NHB-90-T3-E3			
100 x 100 mm	(4" x 4")	NHB-90-T3-F	NHB-90-T3-F1	NHB-90-T3-F2	NHB-90-T3-F3			
150 x 50 mm	(6" x 2")	NHB-90-T3-G	NHB-90-T3-G1	NHB-90-T3-G2	NHB-90-T3-G3			
150 x 75 mm	(6" x 3")	NHB-90-T3-H	NHB-90-T3-H1	NHB-90-T3-H2	NHB-90-T3-H3			
150 x 100 mm	(6" x 4")	NHB-90-T3-I	NHB-90-T3-I1	NHB-90-T3-I2	NHB-90-T3-I3			
150 x 150 mm	(6" x 6")	NHB-90-T3-J	NHB-90-T3-J1	NHB-90-T3-J2	NHB-90-T3-J3			
200 x 100 mm	(8" x 4")	NHB-90-T3-K	NHB-90-T3-K1	NHB-90-T3-K2	NHB-90-T3-K3			
300 x 100 mm	(12" x 4")	NHB-90-T3-L	NHB-90-T3-L1	NHB-90-T3-L2	NHB-90-T3-L3			
450 x 100 mm	(18" x 4")	NHB-90-T3-M	NHB-90-T3-M1	NHB-90-T3-M2	NHB-90-T3-M3			
600 x 100 mm	(24" x 4")	NHB-90-T3-N	NHB-90-T3-N1	NHB-90-T3-N2	NHB-90-T3-N3			

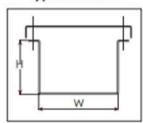
#### **BEND 90 ° INSIDE LID FOR SINGLE COMPARTMENT**

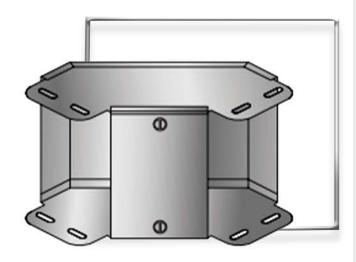


Type I: inside



Type 2: outside



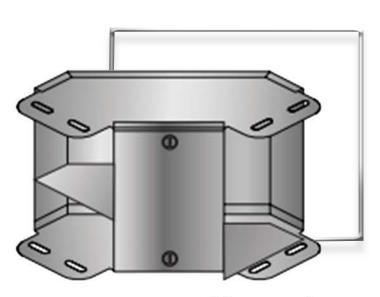


cornered / curved

	Bend 90° Inside Lid for Single Compartment							
Discovering the same of the sa	land.	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-90-I1-A	NHB-90-I1-A1	NHB-90-I1-A2	NHB-90-I1-A3			
75 x 50 mm	(3" x 2")	NHB-90-I1-B	NHB-90-I1-B1	NHB-90-I1-B2	NHB-90-I1-B3			
75 x 75 mm	(3" x 3")	NHB-90-I1-C	NHB-90-I1-C1	NHB-90-I1-C2	NHB-90-I1-C3			
100 x 50 mm	(4" x 2")	NHB-90-I1-D	NHB-90-I1-D1	NHB-90-I1-D2	NHB-90-I1-D3			
100 x 75 mm	(4" x 3")	NHB-90-I1-E	NHB-90-I1-E1	NHB-90-I1-E2	NHB-90-I1-E3			
100 x 100 mm	(4" x 4")	NHB-90-I1-F	NHB-90-I1-F1	NHB-90-I1-F2	NHB-90-I1-F3			
150 x 50 mm	(6" x 2")	NHB-90-I1-G	NHB-90-I1-G1	NHB-90-I1-G2	NHB-90-I1-G3			
150 x 75 mm	(6" x 3")	NHB-90-I1-H	NHB-90-I1-H1	NHB-90-I1-H2	NHB-90-I1-H3			
150 x 100 mm	(6" x 4")	NHB-90-I1-I	NHB-90-I1-I1	NHB-90-I1-I2	NHB-90-I1-I3			
150 x 150 mm	(6" x 6")	NHB-90-I1-J	NHB-90-I1-J1	NHB-90-I1-J2	NHB-90-I1-J3			
200 x 100 mm	(8" x 4")	NHB-90-I1-K	NHB-90-I1-K1	NHB-90-I1-K2	NHB-90-I1-K3			
300 x 100 mm	(12" x 4")	NHB-90-I1-L	NHB-90-I1-L1	NHB-90-I1-L2	NHB-90-I1-L3			
450 x 100 mm	(18" x 4")	NHB-90-I1-M	NHB-90-I1-M1	NHB-90-I1-M2	NHB-90-I1-M3			
600 x 100 mm	(24" x 4")	NHB-90-I1-N	NHB-90-I1-N1	NHB-90-I1-N2	NHB-90-I1-N3			

#### **BEND 90 ° INSIDE LID FOR DOUBLE COMPARTMENT**

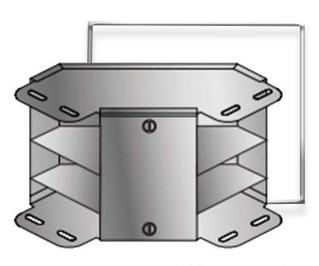




	Bend 90° Inside Lid for Double Compartment							
Dimensions	Inch	Item Codes						
Dimensions	inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-90-I2-A	NHB-90-I2-A1	NHB-90-12-A2	NHB-90-I2-A3			
75 x 50 mm	(3" x 2")	NHB-90-12-B	NHB-90-I2-B1	NHB-90-12-B2	NHB-90-I2-B3			
75 x 75 mm	(3" x 3")	NHB-90-12-C	NHB-90-I2-C1	NHB-90-I2-C2	NHB-90-12-C3			
100 x 50 mm	(4" x 2")	NHB-90-I2-D	NHB-90-I2-D1	NHB-90-I2-D2	NHB-90-I2-D3			
100 x 75 mm	(4" x 3")	NHB-90-12-E	NHB-90-I2-E1	NHB-90-I2-E2	NHB-90-I2-E3			
100 x 100 mm	(4" x 4")	NHB-90-12-F	NHB-90-I2-F1	NHB-90-12-F2	NHB-90-12-F3			
150 x 50 mm	(6" x 2")	NHB-90-12-G	NHB-90-I2-G1	NHB-90-I2-G2	NHB-90-I2-G3			
150 x 75 mm	(6" x 3")	NHB-90-I2-H	NHB-90-I2-H1	NHB-90-12-H2	NHB-90-12-H3			
150 x 100 mm	(6" x 4")	NHB-90-12-1	NHB-90-I2-I1	NHB-90-12-12	NHB-90-12-13			
150 x 150 mm	(6" x 6")	NHB-90-12-J	NHB-90-I2-J1	NHB-90-12-J2	NHB-90-12-J3			
200 x 100 mm	(8" x 4")	NHB-90-12-K	NHB-90-I2-K1	NHB-90-I2-K2	NHB-90-I2-K3			
300 x 100 mm	(12" x 4")	NHB-90-12-L	NHB-90-I2-L1	NHB-90-12-L2	NHB-90-12-L3			
450 x 100 mm	(18" x 4")	NHB-90-12-M	NHB-90-I2-M1	NHB-90-12-M2	NHB-90-I2-M3			
600 x 100 mm	(24" x 4")	NHB-90-12-N	NHB-90-I2-N1	NHB-90-12-N2	NHB-90-12-N3			

#### **BEND 90 ° INSIDE LID FOR TRIPLE COMPARTMENT**



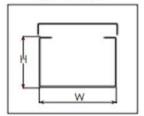


	Bend 90° Inside Lid for Triple Compartment							
Dimensions	Inch	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-90-13-A	NHB-90-I3-A1	NHB-90-13-A2	NHB-90-I3-A3			
75 x 50 mm	(3" x 2")	NHB-90-13-B	NHB-90-I3-B1	NHB-90-13-B2	NHB-90-13-B3			
75 x 75 mm	(3" x 3")	NHB-90-13-C	NHB-90-I3-C1	NHB-90-13-C2	NHB-90-I3-C3			
100 x 50 mm	(4" x 2")	NHB-90-13-D	NHB-90-I3-D1	NHB-90-13-D2	NHB-90-13-D3			
100 x 75 mm	(4" x 3")	NHB-90-13-E	NHB-90-I3-E1	NHB-90-I3-E2	NHB-90-13-E3			
100 x 100 mm	(4" x 4")	NHB-90-13-F	NHB-90-I3-F1	NHB-90-13-F2	NHB-90-I3-F3			
150 x 50 mm	(6" x 2")	NHB-90-13-G	NHB-90-I3-G1	NHB-90-13-G2	NHB-90-I3-G3			
150 x 75 mm	(6" x 3")	NHB-90-13-H	NHB-90-I3-H1	NHB-90-I3-H2	NHB-90-13-H3			
150 x 100 mm	(6" x 4")	NHB-90-I3-I	NHB-90-I3-I1	NHB-90-13-12	NHB-90-13-13			
150 x 150 mm	(6" x 6")	NHB-90-13-J	NHB-90-I3-J1	NHB-90-13-J2	NHB-90-13-J3			
200 x 100 mm	(8" x 4")	NHB-90-13-K	NHB-90-I3-K1	NHB-90-13-K2	NHB-90-13-K3			
300 x 100 mm	(12" x 4")	NHB-90-13-L	NHB-90-I3-L1	NHB-90-13-L2	NHB-90-13-L3			
450 x 100 mm	(18" x 4")	NHB-90-13-M	NHB-90-I3-M1	NHB-90-13-M2	NHB-90-I3-M3			
600 x 100 mm	(24" x 4")	NHB-90-13-N	NHB-90-I3-N1	NHB-90-13-N2	NHB-90-13-N3			

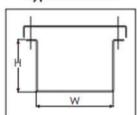
#### BEND 90 ° OUTSIDE LID FOR SINGLE COMPARTMENT

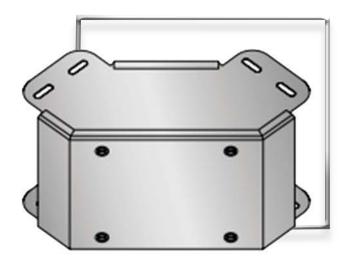






Type 2: outside



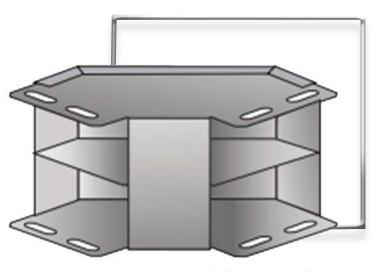


cornered / curved

	Bend 90° Outside Lid for Single Compartment							
Discontinu	back.	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-90-01-A	NHB-90-01-A1	NHB-90-O1-A2	NHB-90-O1-A3			
75 x 50 mm	(3" x 2")	NHB-90-O1-B	NHB-90-01-B1	NHB-90-O1-B2	NHB-90-O1-B3			
75 x 75 mm	(3" x 3")	NHB-90-01-C	NHB-90-01-C1	NHB-90-O1-C2	NHB-90-O1-C3			
100 x 50 mm	(4" x 2")	NHB-90-O1-D	NHB-90-01-D1	NHB-90-O1-D2	NHB-90-O1-D3			
100 x 75 mm	(4" x 3")	NHB-90-01-E	NHB-90-01-E1	NHB-90-O1-E2	NHB-90-O1-E3			
100 x 100 mm	(4" x 4")	NHB-90-01-F	NHB-90-01-F1	NHB-90-O1-F2	NHB-90-O1-F3			
150 x 50 mm	(6" x 2")	NHB-90-01-G	NHB-90-01-G1	NHB-90-O1-G2	NHB-90-O1-G3			
150 x 75 mm	(6" x 3")	NHB-90-01-H	NHB-90-01-H1	NHB-90-O1-H2	NHB-90-O1-H3			
150 x 100 mm	(6" x 4")	NHB-90-01-I	NHB-90-01-I1	NHB-90-01-I2	NHB-90-01-I3			
150 x 150 mm	(6" x 6")	NHB-90-01-J	NHB-90-01-J1	NHB-90-O1-J2	NHB-90-O1-J3			
200 x 100 mm	(8" x 4")	NHB-90-01-K	NHB-90-01-K1	NHB-90-O1-K2	NHB-90-O1-K3			
300 x 100 mm	(12" x 4")	NHB-90-01-L	NHB-90-01-L1	NHB-90-01-L2	NHB-90-O1-L3			
450 x 100 mm	(18" x 4")	NHB-90-01-M	NHB-90-01-M1	NHB-90-O1-M2	NHB-90-O1-M3			
600 x 100 mm	(24" x 4")	NHB-90-01-N	NHB-90-01-N1	NHB-90-O1-N2	NHB-90-O1-N3			

## BEND 90 ° OUTSIDE LID FOR DOUBLE COMPARTMENT

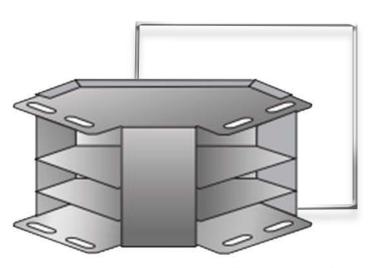




	Bend 90° Outside Lid for Double Compartment								
DI.	Local Control		Item C	odes					
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NHB-90-02-A	NHB-90-02-A1	NHB-90-02-A2	NHB-90-O2-A3				
75 x 50 mm	(3" x 2")	NHB-90-O2-B	NHB-90-O2-B1	NHB-90-O2-B2	NHB-90-O2-B3				
75 x 75 mm	(3" x 3")	NHB-90-02-C	NHB-90-02-C1	NHB-90-O2-C2	NHB-90-O2-C3				
100 x 50 mm	(4" x 2")	NHB-90-O2-D	NHB-90-02-D1	NHB-90-O2-D2	NHB-90-O2-D3				
100 x 75 mm	(4" x 3")	NHB-90-02-E	NHB-90-02-E1	NHB-90-O2-E2	NHB-90-O2-E3				
100 x 100 mm	(4" x 4")	NHB-90-O2-F	NHB-90-02-F1	NHB-90-O2-F2	NHB-90-O2-F3				
150 x 50 mm	(6" x 2")	NHB-90-02-G	NHB-90-02-G1	NHB-90-O2-G2	NHB-90-O2-G3				
150 x 75 mm	(6" x 3")	NHB-90-02-H	NHB-90-02-H1	NHB-90-O2-H2	NHB-90-O2-H3				
150 x 100 mm	(6" x 4")	NHB-90-02-I	NHB-90-O2-I1	NHB-90-02-12	NHB-90-O2-I3				
150 x 150 mm	(6" x 6")	NHB-90-O2-J	NHB-90-O2-J1	NHB-90-O2-J2	NHB-90-O2-J3				
200 x 100 mm	(8" x 4")	NHB-90-O2-K	NHB-90-02-K1	NHB-90-O2-K2	NHB-90-O2-K3				
300 x 100 mm	(12" x 4")	NHB-90-02-L	NHB-90-02-L1	NHB-90-02-L2	NHB-90-02-L3				
450 x 100 mm	(18" x 4")	NHB-90-02-M	NHB-90-O2-M1	NHB-90-O2-M2	NHB-90-O2-M3				
600 x 100 mm	(24" x 4")	NHB-90-O2-N	NHB-90-02-N1	NHB-90-O2-N2	NHB-90-O2-N3				

## BEND 90 ° OUTSIDE LID FOR TRIPLE COMPARTMENT



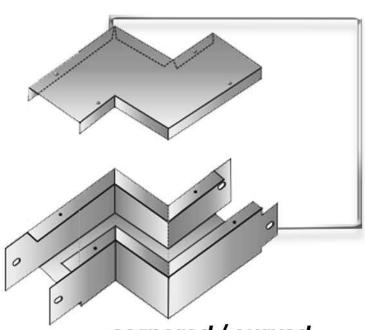


	Bend 90° Outside Lid for Triple Compartment							
Dimensions	Localis	Item Codes						
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
50 x 50 mm	(2" x 2")	NHB-90-03-A	NHB-90-03-A1	NHB-90-O3-A2	NHB-90-O3-A3			
75 x 50 mm	(3" x 2")	NHB-90-O3-B	NHB-90-03-B1	NHB-90-O3-B2	NHB-90-O3-B3			
75 x 75 mm	(3" x 3")	NHB-90-O3-C	NHB-90-03-C1	NHB-90-O3-C2	NHB-90-O3-C3			
100 x 50 mm	(4" x 2")	NHB-90-O3-D	NHB-90-O3-D1	NHB-90-O3-D2	NHB-90-O3-D3			
100 x 75 mm	(4" x 3")	NHB-90-03-E	NHB-90-03-E1	NHB-90-O3-E2	NHB-90-O3-E3			
100 x 100 mm	(4" x 4")	NHB-90-O3-F	NHB-90-03-F1	NHB-90-O3-F2	NHB-90-O3-F3			
150 x 50 mm	(6" x 2")	NHB-90-03-G	NHB-90-03-G1	NHB-90-O3-G2	NHB-90-O3-G3			
150 x 75 mm	(6" x 3")	NHB-90-O3-H	NHB-90-03-H1	NHB-90-O3-H2	NHB-90-O3-H3			
150 x 100 mm	(6" x 4")	NHB-90-O3-I	NHB-90-O3-I1	NHB-90-03-I2	NHB-90-O3-I3			
150 x 150 mm	(6" x 6")	NHB-90-O3-J	NHB-90-O3-J1	NHB-90-03-J2	NHB-90-O3-J3			
200 x 100 mm	(8" x 4")	NHB-90-O3-K	NHB-90-03-K1	NHB-90-O3-K2	NHB-90-O3-K3			
300 x 100 mm	(12" x 4")	NHB-90-O3-L	NHB-90-03-L1	NHB-90-03-L2	NHB-90-O3-L3			
450 x 100 mm	(18" x 4")	NHB-90-O3-M	NHB-90-O3-M1	NHB-90-O3-M2	NHB-90-O3-M3			
600 x 100 mm	(24" x 4")	NHB-90-03-N	NHB-90-03-N1	NHB-90-O3-N2	NHB-90-O3-N3			



## 90° HORIZONTAL OFFSET

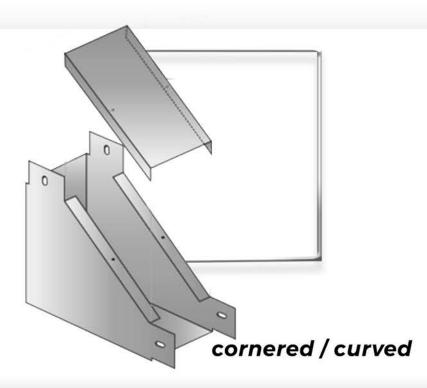




90° Horizontal Offset							
Disconstance	lands		Item C	odes			
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm		
50 x 50 mm	(2" x 2")	NHO-90-A	NHO-90-A1	NHO-90-A2	NHO-90-A3		
75 x 50 mm	(3" x 2")	NHO-90-B	NHO-90-B1	NHO-90-B2	NHO-90-B3		
75 x 75 mm	(3" x 3")	NHO-90-C	NHO-90-C1	NHO-90-C2	NHO-90-C3		
100 x 50 mm	(4" x 2")	NHO-90-D	NHO-90-D1	NHO-90-D2	NHO-90-D3		
100 x 75 mm	(4" x 3")	NHO-90-E	NHO-90-E1	NHO-90-E2	NHO-90-E3		
100 x 100 mm	(4" x 4")	NHO-90-F	NHO-90-F1	NHO-90-F2	NHO-90-F3		
150 x 50 mm	(6" x 2")	NHO-90-G	NHO-90-G1	NHO-90-G2	NHO-90-G3		
150 x 75 mm	(6" x 3")	NHO-90-H	NHO-90-H1	NHO-90-H2	NHO-90-H3		
150 x 100 mm	(6" x 4")	NHO-90-I	NHO-90-I1	NHO-90-12	NHO-90-I3		
150 x 150 mm	(6" x 6")	NHO-90-J	NHO-90-J1	NHO-90-J2	NHO-90-J3		
200 x 100 mm	(8" x 4")	NHO-90-K	NHO-90-K1	NHO-90-K2	NHO-90-K3		
300 x 100 mm	(12" x 4")	NHO-90-L	NHO-90-L1	NHO-90-L2	NHO-90-L3		
450 x 100 mm	(18" x 4")	NHO-90-M	NHO-90-M1	NHO-90-M2	NHO-90-M3		
600 x 100 mm	(24" x 4")	NHO-90-N	NHO-90-N1	NHO-90-N2	NHO-90-N3		





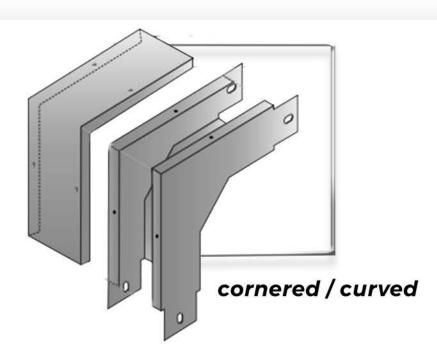


	90° Internal Riser									
Dimensions	Total Control	Item Codes								
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm					
50 x 50 mm	(2" x 2")	NIR-90-A	NIR-90-A1	NIR-90-A2	NIR-90-A3					
75 x 50 mm	(3" x 2")	NIR-90-B	NIR-90-B1	NIR-90-B2	NIR-90-B3					
75 x 75 mm	(3" x 3")	NIR-90-C	NIR-90-C1	NIR-90-C2	NIR-90-C3					
100 x 50 mm	(4" x 2")	NIR-90-D	NIR-90-D1	NIR-90-D2	NIR-90-D3					
100 x 75 mm	(4" x 3")	NIR-90-E	NIR-90-E1	NIR-90-E2	NIR-90-E3					
100 x 100 mm	(4" x 4")	NIR-90-F	NIR-90-F1	NIR-90-F2	NIR-90-F3					
150 x 50 mm	(6" x 2")	NIR-90-G	NIR-90-G1	NIR-90-G2	NIR-90-G3					
150 x 75 mm	(6" x 3")	NIR-90-H	NIR-90-H1	NIR-90-H2	NIR-90-H3					
150 x 100 mm	(6" x 4")	NIR-90-I	NIR-90-I1	NIR-90-12	NIR-90-13					
150 x 150 mm	(6" x 6")	NIR-90-J	NIR-90-J1	NIR-90-J2	NIR-90-J3					
200 x 100 mm	(8" x 4")	NIR-90-K	NIR-90-K1	NIR-90-K2	NIR-90-K3					
300 x 100 mm	(12" x 4")	NIR-90-L	NIR-90-L1	NIR-90-L2	NIR-90-L3					
450 x 100 mm	(18" x 4")	NIR-90-M	NIR-90-M1	NIR-90-M2	NIR-90-M3					
600 x 100 mm	(24" x 4")	NIR-90-N	NIR-90-N1	NIR-90-N2	NIR-90-N3					

## 90° EXTERNAL RISER





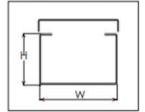


	90° External Riser								
Nimenature	and the same of th	Item Codes							
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NER-90-A	NER-90-A1	NER-90-A2	NER-90-A3				
75 x 50 mm	(3" x 2")	NER-90-B	NER-90-B1	NER-90-B2	NER-90-B3				
75 x 75 mm	(3" x 3")	NER-90-C	NER-90-C1	NER-90-C2	NER-90-C3				
100 x 50 mm	(4" x 2")	NER-90-D	NER-90-D1	NER-90-D2	NER-90-D3				
100 x 75 mm	(4" x 3")	NER-90-E	NER-90-E1	NER-90-E2	NER-90-E3				
100 x 100 mm	(4" x 4")	NER-90-F	NER-90-F1	NER-90-F2	NER-90-F3				
150 x 50 mm	(6" x 2")	NER-90-G	NER-90-G1	NER-90-G2	NER-90-G3				
150 x 75 mm	(6" x 3")	NER-90-H	NER-90-H1	NER-90-H2	NER-90-H3				
150 x 100 mm	(6" x 4")	NER-90-I	NER-90-I1	NER-90-12	NER-90-13				
150 x 150 mm	(6" x 6")	NER-90-J	NER-90-J1	NER-90-J2	NER-90-J3				
200 x 100 mm	(8" x 4")	NER-90-K	NER-90-K1	NER-90-K2	NER-90-K3				
300 x 100 mm	(12" x 4")	NER-90-L	NER-90-L1	NER-90-L2	NER-90-L3				
450 x 100 mm	(18" x 4")	NER-90-M	NER-90-M1	NER-90-M2	NER-90-M3				
600 x 100 mm	(24" x 4")	NER-90-N	NER-90-N1	NER-90-N2	NER-90-N3				

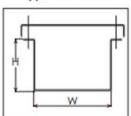
#### TEE BEND TOP LID FOR SINGLE COMPARTMENT

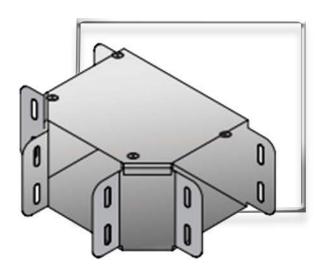






Type 2: outside



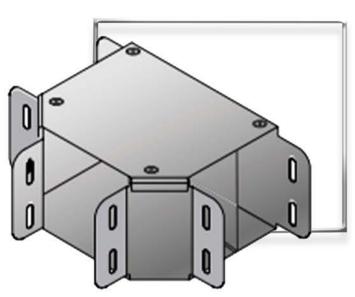


cornered / curved

	Tee Bend Top Lid For Single Compartment								
Diameter.	to de	Item Codes							
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTB-T1-A	NTB-T1-A1	NTB-T1-A2	NTB-T1-A3				
75 x 50 mm	(3" x 2")	NTB-T1-B	NTB-T1-B1	NTB-T1-B2	NTB-T1-B3				
75 x 75 mm	(3" x 3")	NTB-T1-C	NTB-T1-C1	NTB-T1-C2	NTB-T1-C3				
100 x 50 mm	(4" x 2")	NTB-T1-D	NTB-T1-D1	NTB-T1-D2	NTB-T1-D3				
100 x 75 mm	(4" x 3")	NTB-T1-E	NTB-T1-E1	NTB-T1-E2	NTB-T1-E3				
100 x 100 mm	(4" x 4")	NTB-T1-F	NTB-T1-F1	NTB-T1-F2	NTB-T1-F3				
150 x 50 mm	(6" x 2")	NTB-T1-G	NTB-T1-G1	NTB-T1-G2	NTB-T1-G3				
150 x 75 mm	(6" x 3")	NTB-T1-H	NTB-T1-H1	NTB-T1-H2	NTB-T1-H3				
150 x 100 mm	(6" x 4")	NTB-T1-I	NTB-T1-I1	NTB-T1-I2	NTB-T1-I3				
150 x 150 mm	(6" x 6")	NTB-T1-J	NTB-T1-J1	NTB-T1-J2	NTB-T1-J3				
200 x 100 mm	(8" x 4")	NTB-T1-K	NTB-T1-K1	NTB-T1-K2	NTB-T1-K3				
300 x 100 mm	(12" x 4")	NTB-T1-L	NTB-T1-L1	NTB-T1-L2	NTB-T1-L3				
450 x 100 mm	(18" x 4")	NTB-T1-M	NTB-T1-M1	NTB-T1-M2	NTB-T1-M3				
600 x 100 mm	(24" x 4")	NTB-T1-N	NTB-T1-N1	NTB-T1-N2	NTB-T1-N3				

#### TEE BEND TOP LID FOR DOUBLE COMPARTMENT



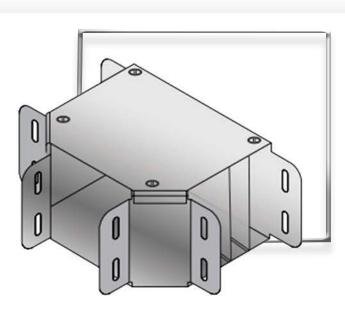


cornered / curved

	Tee Bend Top Lid For Double Compartment								
Dimensions	Inch		Item C	odes					
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTB-T2-A	NTB-T2-A1	NTB-T2-A2	NTB-T2-A3				
75 x 50 mm	(3" x 2")	NTB-T2-B	NTB-T2-B1	NTB-T2-B2	NTB-T2-B3				
75 x 75 mm	(3" x 3")	NTB-T2-C	NTB-T2-C1	NTB-T2-C2	NTB-T2-C3				
100 x 50 mm	(4" x 2")	NTB-T2-D	NTB-T2-D1	NTB-T2-D2	NTB-T2-D3				
100 x 75 mm	(4" x 3")	NTB-T2-E	NTB-T2-E1	NTB-T2-E2	NTB-T2-E3				
100 x 100 mm	(4" x 4")	NTB-T2-F	NTB-T2-F1	NTB-T2-F2	NTB-T2-F3				
150 x 50 mm	(6" x 2")	NTB-T2-G	NTB-T2-G1	NTB-T2-G2	NTB-T2-G3				
150 x 75 mm	(6" x 3")	NTB-T2-H	NTB-T2-H1	NTB-T2-H2	NTB-T2-H3				
150 x 100 mm	(6" x 4")	NTB-T2-I	NTB-T2-I1	NTB-T2-I2	NTB-T2-I3				
150 x 150 mm	(6" x 6")	NTB-T2-J	NTB-T2-J1	NTB-T2-J2	NTB-T2-J3				
200 x 100 mm	(8" x 4")	NTB-T2-K	NTB-T2-K1	NTB-T2-K2	NTB-T2-K3				
300 x 100 mm	(12" x 4")	NTB-T2-L	NTB-T2-L1	NTB-T2-L2	NTB-T2-L3				
450 x 100 mm	(18" x 4")	NTB-T2-M	NTB-T2-M1	NTB-T2-M2	NTB-T2-M3				
600 x 100 mm	(24" x 4")	NTB-T2-N	NTB-T2-N1	NTB-T2-N2	NTB-T2-N3				

#### TEE BEND TOP LID FOR TRIPLE COMPARTMENT



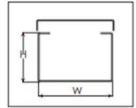


	Tee Bend Top Lid For Triple Compartment								
Dimensions	Inch	Item Codes							
Dimensions	inen	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTB-T3-A	NTB-T3-A1	NTB-T3-A2	NTB-T3-A3				
75 x 50 mm	(3" x 2")	NTB-T3-B	NTB-T3-B1	NTB-T3-B2	NTB-T3-B3				
75 x 75 mm	(3" x 3")	NTB-T3-C	NTB-T3-C1	NTB-T3-C2	NTB-T3-C3				
100 x 50 mm	(4" x 2")	NTB-T3-D	NTB-T3-D1	NTB-T3-D2	NTB-T3-D3				
100 x 75 mm	(4" x 3")	NTB-T3-E	NTB-T3-E1	NTB-T3-E2	NTB-T3-E3				
100 x 100 mm	(4" x 4")	NTB-T3-F	NTB-T3-F1	NTB-T3-F2	NTB-T3-F3				
150 x 50 mm	(6" x 2")	NTB-T3-G	NTB-T3-G1	NTB-T3-G2	NTB-T3-G3				
150 x 75 mm	(6" x 3")	NTB-T3-H	NTB-T3-H1	NTB-T3-H2	NTB-T3-H3				
150 x 100 mm	(6" x 4")	NTB-T3-I	NTB-T3-I1	NTB-T3-I2	NTB-T3-I3				
150 x 150 mm	(6" x 6")	NTB-T3-J	NTB-T3-J1	NTB-T3-J2	NTB-T3-J3				
200 x 100 mm	(8" x 4")	NTB-T3-K	NTB-T3-K1	NTB-T3-K2	NTB-T3-K3				
300 x 100 mm	(12" x 4")	NTB-T3-L	NTB-T3-L1	NTB-T3-L2	NTB-T3-L3				
450 x 100 mm	(18" x 4")	NTB-T3-M	NTB-T3-M1	NTB-T3-M2	NTB-T3-M3				
600 x 100 mm	(24" x 4")	NTB-T3-N	NTB-T3-N1	NTB-T3-N2	NTB-T3-N3				

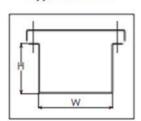
#### TEE BEND INSIDE LID FOR SINGLE COMPARTMENT

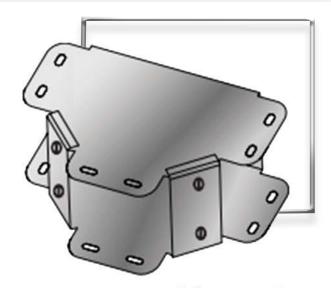






Type 2: outside





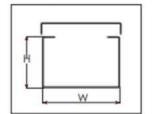
cornered / curved

-	Tee Bend Inside Lid For Single Compartment								
Dimensions	neck:	Item Codes							
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTBI-T1-A	NTBI-T1-A1	NTBI-T1-A2	NTBI-T1-A3				
75 x 50 mm	(3" x 2")	NTBI-T1-B	NTBI-T1-B1	NTBI-T1-B2	NTBI-T1-B3				
75 x 75 mm	(3" x 3")	NTBI-T1-C	NTBI-T1-C1	NTBI-T1-C2	NTBI-T1-C3				
100 x 50 mm	(4" x 2")	NTBI-T1-D	NTBI-T1-D1	NTBI-T1-D2	NTBI-T1-D3				
100 x 75 mm	(4" x 3")	NTBI-T1-E	NTBI-T1-E1	NTBI-T1-E2	NTBI-T1-E3				
100 x 100 mm	(4" x 4")	NTBI-T1-F	NTBI-T1-F1	NTBI-T1-F2	NTBI-T1-F3				
150 x 50 mm	(6" x 2")	NTBI-T1-G	NTBI-T1-G1	NTBI-T1-G2	NTBI-T1-G3				
150 x 75 mm	(6" x 3")	NTBI-T1-H	NTBI-T1-H1	NTBI-T1-H2	NTBI-T1-H3				
150 x 100 mm	(6" x 4")	NTBI-T1-I	NTBI-T1-I1	NTBI-T1-I2	NTBI-T1-I3				
150 x 150 mm	(6" x 6")	NTBI-T1-J	NTBI-T1-J1	NTBI-T1-J2	NTBI-T1-J3				
200 x 100 mm	(8" x 4")	NTBI-T1-K	NTBI-T1-K1	NTBI-T1-K2	NTBI-T1-K3				
300 x 100 mm	(12" x 4")	NTBI-T1-L	NTBI-T1-L1	NTBI-T1-L2	NTBI-T1-L3				
450 x 100 mm	(18" x 4")	NTBI-T1-M	NTBI-T1-M1	NTBI-T1-M2	NTBI-T1-M3				
600 x 100 mm	(24" x 4")	NTBI-T1-N	NTBI-T1-N1	NTBI-T1-N2	NTBI-T1-N3				

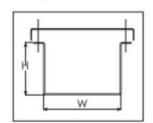
## TEE BEND INSIDE LID FOR DOUBLE COMPARTMENT

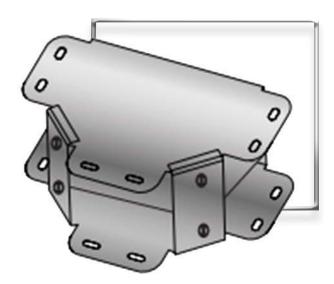


Type I: inside



Type 2: outside





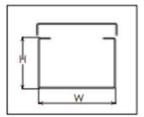
cornered / curved

	Tee Bend Inside Lid For Double Compartment								
Dimensions	lands.	Item Codes		odes					
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTBI-T2-A	NTBI-T2-A1	NTBI-T2-A2	NTBI-T2-A3				
75 x 50 mm	(3" x 2")	NTBI-T2-B	NTBI-T2-B1	NTBI-T2-B2	NTBI-T2-B3				
75 x 75 mm	(3" x 3")	NTBI-T2-C	NTBI-T2-C1	NTBI-T2-C2	NTBI-T2-C3				
100 x 50 mm	(4" x 2")	NTBI-T2-D	NTBI-T2-D1	NTBI-T2-D2	NTBI-T2-D3				
100 x 75 mm	(4" x 3")	NTBI-T2-E	NTBI-T2-E1	NTBI-T2-E2	NTBI-T2-E3				
100 x 100 mm	(4" x 4")	NTBI-T2-F	NTBI-T2-F1	NTBI-T2-F2	NTBI-T2-F3				
150 x 50 mm	(6" x 2")	NTBI-T2-G	NTBI-T2-G1	NTBI-T2-G2	NTBI-T2-G3				
150 x 75 mm	(6" x 3")	NTBI-T2-H	NTBI-T2-H1	NTBI-T2-H2	NTBI-T2-H3				
150 x 100 mm	(6" x 4")	NTBI-T2-I	NTBI-T2-I1	NTBI-T2-I2	NTBI-T2-I3				
150 x 150 mm	(6" x 6")	NTBI-T2-J	NTBI-T2-J1	NTBI-T2-J2	NTBI-T2-J3				
200 x 100 mm	(8" x 4")	NTBI-T2-K	NTBI-T2-K1	NTBI-T2-K2	NTBI-T2-K3				
300 x 100 mm	(12" x 4")	NTBI-T2-L	NTBI-T2-L1	NTBI-T2-L2	NTBI-T2-L3				
450 x 100 mm	(18" x 4")	NTBI-T2-M	NTBI-T2-M1	NTBI-T2-M2	NTBI-T2-M3				
600 x 100 mm	(24" x 4")	NTBI-T2-N	NTBI-T2-N1	NTBI-T2-N2	NTBI-T2-N3				

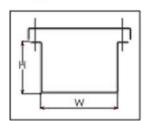
#### TEE BEND INSIDE LID FOR TRIPLE COMPARTMENT

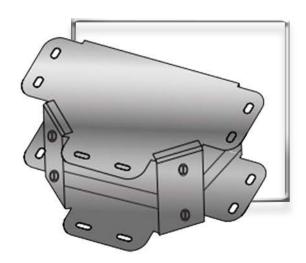


Type I: inside



Type 2: outside



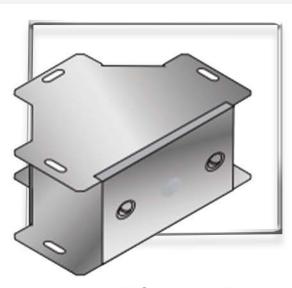


cornered / curved

	Tee Bend Inside Lid For Triple Compartment								
Discontinue	Tools	Item Codes							
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTBI-T3-A	NTBI-T3-A1	NTBI-T3-A2	NTBI-T3-A3				
75 x 50 mm	(3" x 2")	NTBI-T3-B	NTBI-T3-B1	NTBI-T3-B2	NTBI-T3-B3				
75 x 75 mm	(3" x 3")	NTBI-T3-C	NTBI-T3-C1	NTBI-T3-C2	NTBI-T3-C3				
100 x 50 mm	(4" x 2")	NTBI-T3-D	NTBI-T3-D1	NTBI-T3-D2	NTBI-T3-D3				
100 x 75 mm	(4" x 3")	NTBI-T3-E	NTBI-T3-E1	NTBI-T3-E2	NTBI-T3-E3				
100 x 100 mm	(4" x 4")	NTBI-T3-F	NTBI-T3-F1	NTBI-T3-F2	NTBI-T3-F3				
150 x 50 mm	(6" x 2")	NTBI-T3-G	NTBI-T3-G1	NTBI-T3-G2	NTBI-T3-G3				
150 x 75 mm	(6" x 3")	NTBI-T3-H	NTBI-T3-H1	NTBI-T3-H2	NTBI-T3-H3				
150 x 100 mm	(6" x 4")	NTBI-T3-I	NTBI-T3-I1	NTBI-T3-I2	NTBI-T3-I3				
150 x 150 mm	(6" x 6")	NTBI-T3-J	NTBI-T3-J1	NTBI-T3-J2	NTBI-T3-J3				
200 x 100 mm	(8" x 4")	NTBI-T3-K	NTBI-T3-K1	NTBI-T3-K2	NTBI-T3-K3				
300 x 100 mm	(12" x 4")	NTBI-T3-L	NTBI-T3-L1	NTBI-T3-L2	NTBI-T3-L3				
450 x 100 mm	(18" x 4")	NTBI-T3-M	NTBI-T3-M1	NTBI-T3-M2	NTBI-T3-M3				
600 x 100 mm	(24" x 4")	NTBI-T3-N	NTBI-T3-N1	NTBI-T3-N2	NTBI-T3-N3				

## TEE BEND OUTSIDE LID FOR SINGLE COMPARTMENT



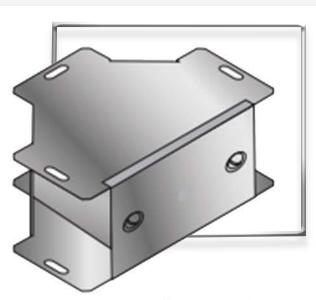


cornered / curved

	Tee Bend Outside Lid For Single Compartment								
Dimensions	Inch		Item C	odes					
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTBO-T1-A	NTBO-T1-A1	NTBO-T1-A2	NTBO-T1-A3				
75 x 50 mm	(3" x 2")	NTBO-T1-B	NTBO-T1-B1	NTBO-T1-B2	NTBO-T1-B3				
75 x 75 mm	(3" x 3")	NTBO-T1-C	NTBO-T1-C1	NTBO-T1-C2	NTBO-T1-C3				
100 x 50 mm	(4" x 2")	NTBO-T1-D	NTBO-T1-D1	NTBO-T1-D2	NTBO-T1-D3				
100 x 75 mm	(4" x 3")	NTBO-T1-E	NTBO-T1-E1	NTBO-T1-E2	NTBO-T1-E3				
100 x 100 mm	(4" x 4")	NTBO-T1-F	NTBO-T1-F1	NTBO-T1-F2	NTBO-T1-F3				
150 x 50 mm	(6" x 2")	NTBO-T1-G	NTBO-T1-G1	NTBO-T1-G2	NTBO-T1-G3				
150 x 75 mm	(6" x 3")	NTBO-T1-H	NTBO-T1-H1	NTBO-T1-H2	NTBO-T1-H3				
150 x 100 mm	(6" x 4")	NTBO-T1-I	NTBO-T1-I1	NTBO-T1-I2	NTBO-T1-I3				
150 x 150 mm	(6" x 6")	NTBO-T1-J	NTBO-T1-J1	NTBO-T1-J2	NTBO-T1-J3				
200 x 100 mm	(8" x 4")	NTBO-T1-K	NTBO-T1-K1	NTBO-T1-K2	NTBO-T1-K3				
300 x 100 mm	(12" x 4")	NTBO-T1-L	NTBO-T1-L1	NTBO-T1-L2	NTBO-T1-L3				
450 x 100 mm	(18" x 4")	NTBO-T1-M	NTBO-T1-M1	NTBO-T1-M2	NTBO-T1-M3				
600 x 100 mm	(24" x 4")	NTBO-T1-N	NTBO-T1-N1	NTBO-T1-N2	NTBO-T1-N3				

## TEE BEND OUTSIDE LID FOR DOUBLE COMPARTMENT



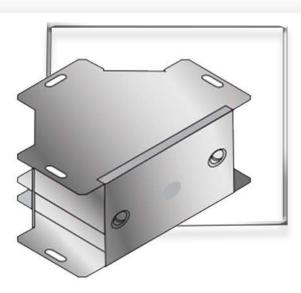


cornered / curved

*	Tee Bend Outside Lid For Double Compartment								
Dii	40.K		Item C	odes					
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTBO-T2-A	NTBO-T2-A1	NTBO-T2-A2	NTBO-T2-A3				
75 x 50 mm	(3" x 2")	NTBO-T2-B	NTBO-T2-B1	NTBO-T2-B2	NTBO-T2-B3				
75 x 75 mm	(3" x 3")	NTBO-T2-C	NTBO-T2-C1	NTBO-T2-C2	NTBO-T2-C3				
100 x 50 mm	(4" x 2")	NTBO-T2-D	NTBO-T2-D1	NTBO-T2-D2	NTBO-T2-D3				
100 x 75 mm	(4" x 3")	NTBO-T2-E	NTBO-T2-E1	NTBO-T2-E2	NTBO-T2-E3				
100 x 100 mm	(4" x 4")	NTBO-T2-F	NTBO-T2-F1	NTBO-T2-F2	NTBO-T2-F3				
150 x 50 mm	(6" x 2")	NTBO-T2-G	NTBO-T2-G1	NTBO-T2-G2	NTBO-T2-G3				
150 x 75 mm	(6" x 3")	NTBO-T2-H	NTBO-T2-H1	NTBO-T2-H2	NTBO-T2-H3				
150 x 100 mm	(6" x 4")	NTBO-T2-I	NTBO-T2-I1	NTBO-T2-I2	NTBO-T2-I3				
150 x 150 mm	(6" x 6")	NTBO-T2-J	NTBO-T2-J1	NTBO-T2-J2	NTBO-T2-J3				
200 x 100 mm	(8" x 4")	NTBO-T2-K	NTBO-T2-K1	NTBO-T2-K2	NTBO-T2-K3				
300 x 100 mm	(12" x 4")	NTBO-T2-L	NTBO-T2-L1	NTBO-T2-L2	NTBO-T2-L3				
450 x 100 mm	(18" x 4")	NTBO-T2-M	NTBO-T2-M1	NTBO-T2-M2	NTBO-T2-M3				
600 x 100 mm	(24" x 4")	NTBO-T2-N	NTBO-T2-N1	NTBO-T2-N2	NTBO-T2-N3				

## TEE BEND OUTSIDE LID FOR TRIPLE COMPARTMENT

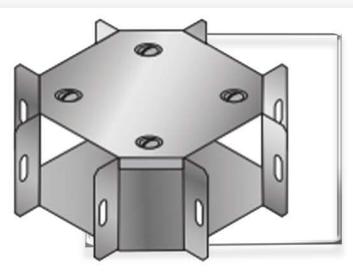




	Tee Bend Outside Lid For Triple Compartment								
Dimensions	locale		Item C	odes					
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NTBO-T3-A	NTBO-T3-A1	NTBO-T3-A2	NTBO-T3-A3				
75 x 50 mm	(3" x 2")	NTBO-T3-B	NTBO-T3-B1	NTBO-T3-B2	NTBO-T3-B3				
75 x 75 mm	(3" x 3")	NTBO-T3-C	NTBO-T3-C1	NTBO-T3-C2	NTBO-T3-C3				
100 x 50 mm	(4" x 2")	NTBO-T3-D	NTBO-T3-D1	NTBO-T3-D2	NTBO-T3-D3				
100 x 75 mm	(4" x 3")	NTBO-T3-E	NTBO-T3-E1	NTBO-T3-E2	NTBO-T3-E3				
100 x 100 mm	(4" x 4")	NTBO-T3-F	NTBO-T3-F1	NTBO-T3-F2	NTBO-T3-F3				
150 x 50 mm	(6" x 2")	NTBO-T3-G	NTBO-T3-G1	NTBO-T3-G2	NTBO-T3-G3				
150 x 75 mm	(6" x 3")	NTBO-T3-H	NTBO-T3-H1	NTBO-T3-H2	NTBO-T3-H3				
150 x 100 mm	(6" x 4")	NTBO-T3-I	NTBO-T3-I1	NTBO-T3-I2	NTBO-T3-I3				
150 x 150 mm	(6" x 6")	NTBO-T3-J	NTBO-T3-J1	NTBO-T3-J2	NTBO-T3-J3				
200 x 100 mm	(8" x 4")	NTBO-T3-K	NTBO-T3-K1	NTBO-T3-K2	NTBO-T3-K3				
300 x 100 mm	(12" x 4")	NTBO-T3-L	NTBO-T3-L1	NTBO-T3-L2	NTBO-T3-L3				
450 x 100 mm	( 18" x 4" )	NTBO-T3-M	NTBO-T3-M1	NTBO-T3-M2	NTBO-T3-M3				
600 x 100 mm	(24" x 4")	NTBO-T3-N	NTBO-T3-N1	NTBO-T3-N2	NTBO-T3-N3				



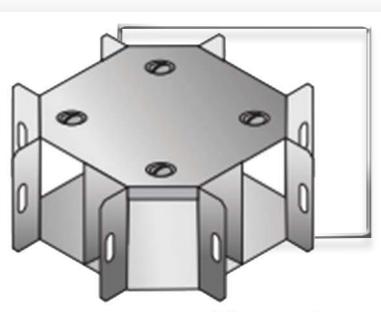




Intersection For Single Compartment									
Dimensions	landa	Item Codes							
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm				
50 x 50 mm	(2" x 2")	NI-T1-A	NI-T1-A1	NI-T1-A2	NI-T1-A3				
75 x 50 mm	(3" x 2")	NI-T1-B	NI-T1-B1	NI-T1-B2	NI-T1-B3				
75 x 75 mm	(3" x 3")	NI-T1-C	NI-T1-C1	NI-T1-C2	NI-T1-C3				
100 x 50 mm	(4" x 2")	NI-T1-D	NI-T1-D1	NI-T1-D2	NI-T1-D3				
100 x 75 mm	(4" x 3")	NI-T1-E	NI-T1-E1	NI-T1-E2	NI-T1-E3				
100 x 100 mm	(4" x 4")	NI-T1-F	NI-T1-F1	NI-T1-F2	NI-T1-F3				
150 x 50 mm	(6" x 2")	NI-T1-G	NI-T1-G1	NI-T1-G2	NI-T1-G3				
150 x 75 mm	(6" x 3")	NI-T1-H	NI-T1-H1	NI-T1-H2	NI-T1-H3				
150 x 100 mm	(6" x 4")	NI-T1-I	NI-T1-I1	NI-T1-I2	NI-T1-I3				
150 x 150 mm	(6" x 6")	NI-T1-J	NI-T1-J1	NI-T1-J2	NI-T1-J3				
200 x 100 mm	(8" x 4")	NI-T1-K	NI-T1-K1	NI-T1-K2	NI-T1-K3				
300 x 100 mm	(12" x 4")	NI-T1-L	NI-T1-L1	NI-T1-L2	NI-T1-L3				
450 x 100 mm	(18" x 4")	NI-T1-M	NI-T1-M1	NI-T1-M2	NI-T1-M3				
600 x 100 mm	(24" x 4")	NI-T1-N	NI-T1-N1	NI-T1-N2	NI-T1-N3				

## INTERSECTION FOR DOUBLE COMPARTMENT



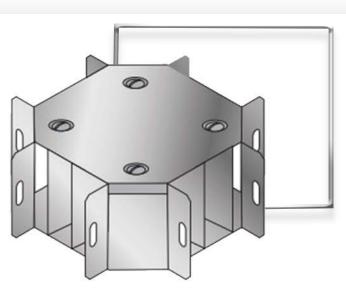


cornered / curved

	Interse	ection For Double Co	mpartment		
Marchiner	to the				
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm
50 x 50 mm	(2" x 2")	NI-T2-A	NI-T2-A1	NI-T2-A2	NI-T2-A3
75 x 50 mm	(3" x 2")	NI-T2-B	NI-T2-B1	NI-T2-B2	NI-T2-B3
75 x 75 mm	(3" x 3")	NI-T2-C	NI-T2-C1	NI-T2-C2	NI-T2-C3
100 x 50 mm	(4" x 2")	NI-T2-D	NI-T2-D1	NI-T2-D2	NI-T2-D3
100 x 75 mm	(4" x 3")	NI-T2-E	NI-T2-E1	NI-T2-E2	NI-T2-E3
100 x 100 mm	(4" x 4")	NI-T2-F	NI-T2-F1	NI-T2-F2	NI-T2-F3
150 x 50 mm	(6" x 2")	NI-T2-G	NI-T2-G1	NI-T2-G2	NI-T2-G3
150 x 75 mm	(6" x 3")	NI-T2-H	NI-T2-H1	NI-T2-H2	NI-T2-H3
150 x 100 mm	(6" x 4")	NI-T2-I	NI-T2-I1	NI-T2-I2	NI-T2-I3
150 x 150 mm	(6" x 6")	NI-T2-J	NI-T2-J1	NI-T2-J2	NI-T2-J3
200 x 100 mm	(8" x 4")	NI-T2-K	NI-T2-K1	NI-T2-K2	NI-T2-K3
300 x 100 mm	(12" x 4")	NI-T2-L	NI-T2-L1	NI-T2-L2	NI-T2-L3
450 x 100 mm	(18" x 4")	NI-T2-M	NI-T2-M1	NI-T2-M2	NI-T2-M3
600 x 100 mm	(24" x 4")	NI-T2-N	NI-T2-N1	NI-T2-N2	NI-T2-N3

## INTERSECTION FOR TRIPLE COMPARTMENT





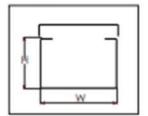
	Inters	ection For Triple Con	partment		
Dimensions	in the				
Dimensions	Inch	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm
50 x 50 mm	(2" x 2")	NI-T3-A	NI-T3-A1	NI-T3-A2	NI-T3-A3
75 x 50 mm	(3" x 2")	NI-T3-B	NI-T3-B1	NI-T3-B2	NI-T3-B3
75 x 75 mm	(3" x 3")	NI-T3-C	NI-T3-C1	NI-T3-C2	NI-T3-C3
100 x 50 mm	(4" x 2")	NI-T3-D	NI-T3-D1	NI-T3-D2	NI-T3-D3
100 x 75 mm	(4" x 3")	NI-T3-E	NI-T3-E1	NI-T3-E2	NI-T3-E3
100 x 100 mm	(4" x 4")	NI-T3-F	NI-T3-F1	NI-T3-F2	NI-T3-F3
150 x 50 mm	(6" x 2")	NI-T3-G	NI-T3-G1	NI-T3-G2	NI-T3-G3
150 x 75 mm	(6" x 3")	NI-T3-H	NI-T3-H1	NI-T3-H2	NI-T3-H3
150 x 100 mm	(6" x 4")	NI-T3-I	NI-T3-I1	NI-T3-I2	NI-T3-I3
150 x 150 mm	(6" x 6")	NI-T3-J	NI-T3-J1	NI-T3-J2	NI-T3-J3
200 x 100 mm	(8" x 4")	NI-T3-K	NI-T3-K1	NI-T3-K2	NI-T3-K3
300 x 100 mm	(12" x 4")	NI-T3-L	NI-T3-L1	NI-T3-L2	NI-T3-L3
450 x 100 mm	(18" x 4")	NI-T3-M	NI-T3-M1	NI-T3-M2	NI-T3-M3
600 x 100 mm	(24" x 4")	NI-T3-N	NI-T3-N1	NI-T3-N2	NI-T3-N3

## REDUCDER

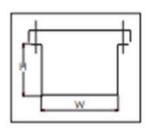


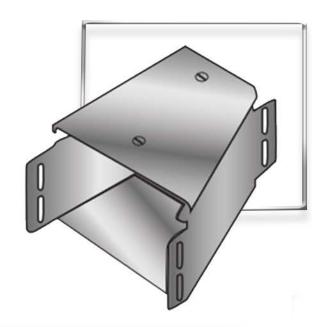


## Type I: inside



Type 2: outside





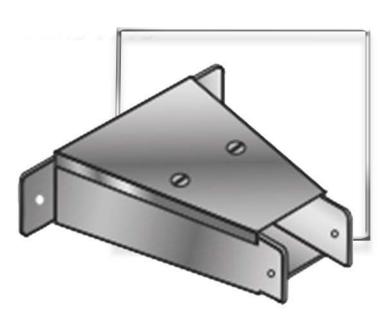
	R	leducer					
	Item Codes						
Dimensions	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
75 x 75 mm - 50 x 50 mm	NR-A	NR-A1	NR-A2	NR-A3			
100 x 100 mm - 100 x 50 mm	NR-B	NR-B1	NR-B2	NR-B3			
100 x 100 mm - 75 x 75 mm	NR-C	NR-C1	NR-C2	NR-C3			
100 x 100 mm - 50 x 50 mm	NR-D	NR-D1	NR-D2	NR-D3			
150 x 150 mm - 50 x 50 mm	NR-E	NR-E1	NR-E2	NR-E3			
150 x 150 mm - 75 x 75 mm	NR-F	NR-F1	NR-F2	NR-F3			
150 x 150 mm - 100 x 100 mm	NR-G	NR-G1	NR-G2	NR-G3			
200 x 100 mm - 100 x 100 mm	NR-H	NR-H1	NR-H2	NR-H3			
200 x 100 mm - 150 x 100 mm	NR-I	NR-I1	NR-I2	NR-I3			
300 x 100 mm - 100 x 100 mm	NR-J	NR-J1	NR-J2	NR-J3			
300 x 100 mm - 150 x 100 mm	NR-K	NR-K1	NR-K2	NR-K3			
300 x 100 mm - 100 x 100 mm	NR-L	NR-L1	NR-L2	NR-L3			
450 x 100 mm - 300 x 100 mm	NR-M	NR-M1	NR-M2	NR-M3			
450 x 100 mm - 200 x 100 mm	NR-N	NR-N1	NR-N2	NR-N3			
450 x 100 mm - 100 x 100 mm	NR-O	NR-O1	NR-O2	NR-O3			
600 x 100 mm - 450 x 100 mm	NR-P	NR-P1	NR-P2	NR-P3			
600 x 100 mm - 300 x 100 mm	NR-Q	NR-Q1	NR-Q2	NR-Q3			
600 x 100 mm - 200 x 100 mm	NR-R	NR-R1	NR-R2	NR-R3			
600 x 100 mm - 100 x 100 mm	NR-S	NR-S1	NR-S2	NR-S3			

Central Reducer Single	NCR-1
Central Reducer Double	NCR-2
Central Reducer Triple	NCR-3
Central Half Single	NCHS-1
Central Half Double	NCHD-2
Central Half Triple	NCHT-3

## **BELLMOUTH**







	Ве	llmouth					
	Item Codes						
Dimensions	Thickness 1 mm	Thickness 1.2 mm	Thickness 1.5 mm	Thickness 2 mm			
75 x 75 mm - 50 x 50 mm	NB-A	NB-A1	NB-A2	NB-A3			
100 x 100 mm - 100 x 50 mm	NB-B	NB-B1	NB-B2	NB-B3			
100 x 100 mm - 75 x 75 mm	NB-C	NB-C1	NB-C2	NB-C3			
100 x 100 mm - 50 x 50 mm	NB-D	NB-D1	NB-D2	NB-D3			
150 x 150 mm - 50 x 50 mm	NB-E	NB-E1	NB-E2	NB-E3			
150 x 150 mm - 75 x 75 mm	NB-F	NB-F1	NB-F2	NB-F3			
150 x 150 mm - 100 x 100 mm	NB-G	NB-G1	NB-G2	NB-G3			
200 x 100 mm - 100 x 100 mm	NB-H	NB-H1	NB-H2	NB-H3			
200 x 100 mm - 150 x 100 mm	NB-I	NB-I1	NB-12	NB-13			
300 x 100 mm - 100 x 100 mm	NB-J	NB-J1	NB-J2	NB-J3			
300 x 100 mm - 150 x 100 mm	NB-K	NB-K1	NB-K2	NB-K3			
300 x 100 mm - 100 x 100 mm	NB-L	NB-L1	NB-L2	NB-L3			
450 x 100 mm - 300 x 100 mm	NB-M	NB-M1	NB-M2	NB-M3			
450 x 100 mm - 200 x 100 mm	NB-N	NB-N1	NB-N2	NB-N3			
450 x 100 mm - 100 x 100 mm	NB-O	NB-O1	NB-O2	NB-O3			
600 x 100 mm - 450 x 100 mm	NB-P	NB-P1	NB-P2	NB-P3			
600 x 100 mm - 300 x 100 mm	NB-Q	NB-Q1	NB-Q2	NB-Q3			
600 x 100 mm - 200 x 100 mm	NB-R	NB-R1	NB-R2	NB-R3			
600 x 100 mm - 100 x 100 mm	NB-S	NB-S1	NB-S2	NB-S3			

Bellmouth Single	NB-1
Bellmouth Double	NB-2
Bellmouth Triple	NB-3





# CABLE TRUNK **ACCESSORIES & SUPPORT**

SYSTEMS.







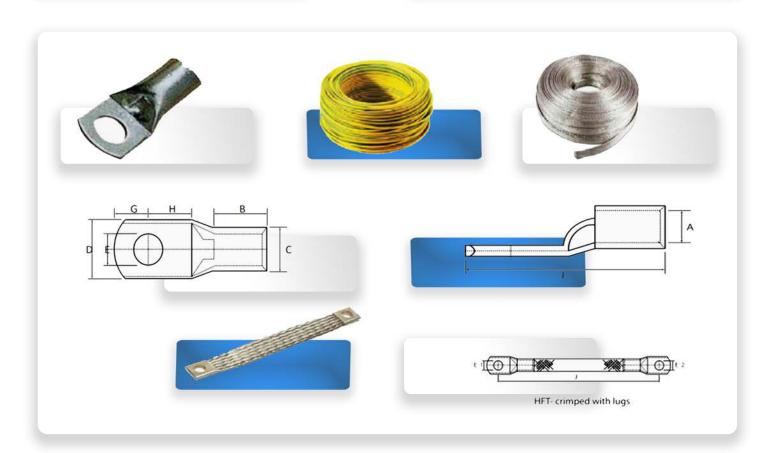






## CRIMPING TYPE COPPER

## TINNED COPPER FLEXIBLE BRAIDS



Cable	Stud Hole		Dimensions (mm)					
mm2	Stud Hole	A	С	D	G	н	В	J
1.5	6.5	1.8	3.7	10	4	6	6	18
2.5	6.5	2.4	4	10	5	6	8	21
2.5	8.4	2.4	4.2	12	6	9	8	26
4	6.5	3.1	4.8	10	5	6	8	21
4	8.4	3.1	5.0	12	6	9	8	26
	6.5	3.8	5.5	10	5	6	10	24
6	8.4	3.8	5.5	12	6	9	10	28
10	6.5	4.5	6.2	11	6	7	10	26
10	8.4	4.5	6.2	12	6	9	10	28
16	6.5	5.4	7.1	12	7	7	12	30
16	8.4	5.4	7.1	12	7	7	12	30
20	8.4	6	7.7	12	7	7	12	32
35	6.5	6.8	8.8	13	7	7	12	30
25	8.4	6.8	8.8	13	7	7	12	30

Size	E	Dimensions (mm)					
mm2	J	E1	E2	rating AMP			
	50	6	6				
4	100 150	6 6	6 6	50			
	50	6	6	90			
10	100 150	6	6 6	90 90			
	100	8.5	8.5	125			
	150	8.5	8.5	125			
16	200	8.5	8.5	125			
	250	8.5	8.5	125			
	300	8.5	8.5	125			
	100	10	10	160			
	150	10	10	160			
25	200	10	10	160			
	250	10	10	160			
	300	10	10	160			



#### C - CHANNEL

N S F metal framing C - Channel is cold formed on modern rolling machines from low carbon steel manufactured according to **BS 6946: 1988.** A continuous slot provides

attachmnents at any point.

the ability to make

**LENGTHS** 

Standard length: 300mm with + 3.2mm length tolerance.Custom lengths are available upon request

#### **FINISHES**

Standard Finishes: Pre-Galvanized finish (ASTM A653M coating G90 and G60). Hot Dip Galvanized after fabrication (ASTM A123 or BS EN ISO 1461:2009). Other custom coatings are available upon request

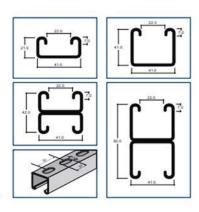


#### METAL FRAMING C - CHANNELS

#### **Selection Chart**

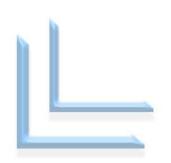
Part No.	Channel D	Thickness	
Part No.	Heigth "H"	idth 'W"	Inickness
C-Channel - 220/221	21.0 mm	41.0 mm	1.5 mm
C-Channel - 240/241	41.0 mm	41.0 mm	1,5 mm
C-Channel - 320/321	21.0 mm	41.0 mm	2.0 mm
C-Channel - 340/341	41.0 mm	41.0 mm	2.0 mm
C-Channel - 420/421	21.0 mm	41.0 mm	2.5 mm
C-Channel - 440/441	41.0 mm	41.0 mm	2.5 mm

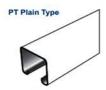
For Toothed Channel add "T" after the Part no. ex: C-CHANNEL - 220T





#### C - CHANNEL HOLE PATTERNS

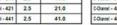








ST Type Channel Part No. Heigth "H" Channel - 221 21.0 CCtannel - 241 1.5 41.0 C-Channel - 321 2.0 21.0 Channel - 341 2.0 41.0 21.0 CChannel - 441 2.5 For Toothed Channel add "T" after the Part no. ex: CCH-220T

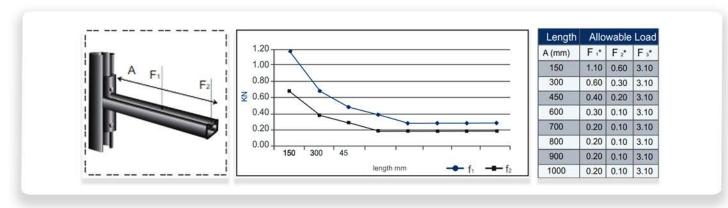








#### **CANTILEVER ARM BRACKETS - SCA**

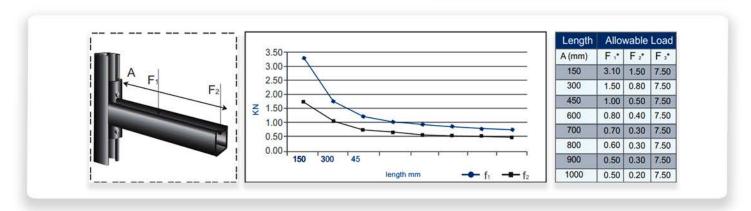


BASE PLATE: height (h) x width (b) x thickness (t) 120 50 8

- In the case of concrete support, use anchor M10.
- In the case of C-Channel frame, use bolt and spring nut M8.

\*\* Connection force (pull out force): 3.1 (KN).

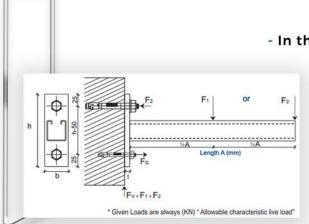
#### CCH 441 41x21x2.5



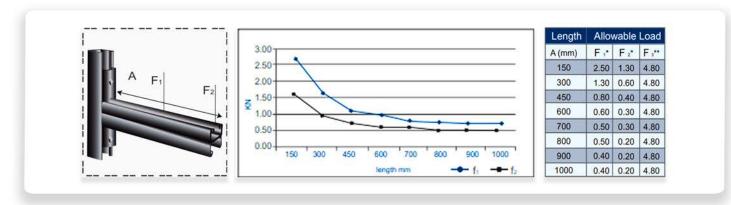
**BASE PLATE**: height (h) x width (b) x thickness (t) 140 50 10

In the case of concrete support, use anchor M16.
 In the case of C-Channel frame, use bolt and spring M8.

\*\* Connection force (pull out force): 7.5 (KN).



#### CANTILEVER ARM BRACKETS - B2B-SCA

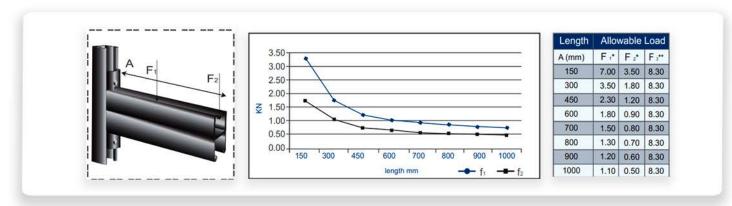


**BASE PLATE**: height(h) x width(b) x thickness(t) 140 50 10

- -In the case of concrete support, use anchor M12.
- -In the case of C-Channel frame, use bolt and spring nut M8.

\*\*Connection force (pull out force): 4.6(KN).

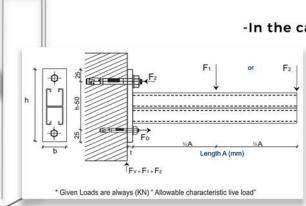
#### **CCH** 421 41x41x2.5 B2B



**BASE PLATE:** height(h) x width(b) x thickness(t)

180 60 12

-In the case of concrete support, use anchor M16.
 -In the case of C-Channel frame, use bolt and spring nut M10.



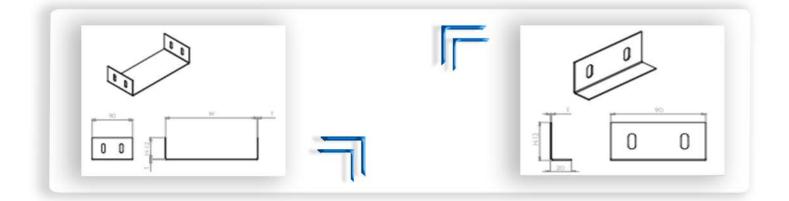
\*\*Connection force (pull out force): 8.3(KN).

U CONNECTOR / STOP END

**ASC 9020** 

**FLANGED CONNECTOR** 

AFC 9025



# Features Lenght 55 mm Width 10 mm Two Slots 13 mm x 6 mm Thickness 0.5 mm Density 0.0024 KG Material Copper Coated with Electro-Nickle

EARTH LINKS. ..



#### Continuity by joining two trunkings

Manufactured with improved features and equivalent to international standards BS-763

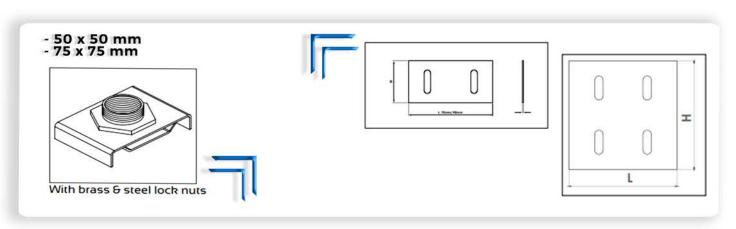
Application: To earth any size or any make of trunkings

SUSPENSION BRACKET

**FLANGED CONNECTOR** 

**ASC 9020** 

AFC 9025







# CABLE TRUNK ORDER CODES.















NCTR-1C-A         100         50         1.0         Inside / Outside         3.00         HDG           NCTR-2C-A         NCTR-3C-A         See Material code           Nipras Cable Trunk - No of         No of	Item number/code	Width	Side Height	Thickness	Side / Flange type	Length	Material	Finish
NCTR-3C-A  Nipras Cable Trunk - No of		100					HDG	PC
Nipras Cable Trunk - No of	NCTR-2C-A						1/2	v
Nipras Cable Trunk - No of	NCTR-3C-A						Con Material	
	Nipras Cable Trunk - No of Compartments						See iviaterial	coues ta

		Code C	ategory				
Compartment	Width	Side Height	Thickness	Side / Flange type	Length	Material	Finish
Compartment	100	50	1.0	Inside / Outside	3.00	HDG	
Single Compartment	NCT	R-1C-A	1.0	0	В	HDG	PC
Double Compartment	NCT	NCTR-2C-A		0	В	HDG	PC
Triple Compartment	NCT	R-3C-A	1.0	0	В	HDG	

Example Order Code
NCTR-1C-A-1.0-O-B-HDG
NCTR-2C-A-1.0-O-B-HDG
NCTR-3C-A-1.0-O-B-HDG









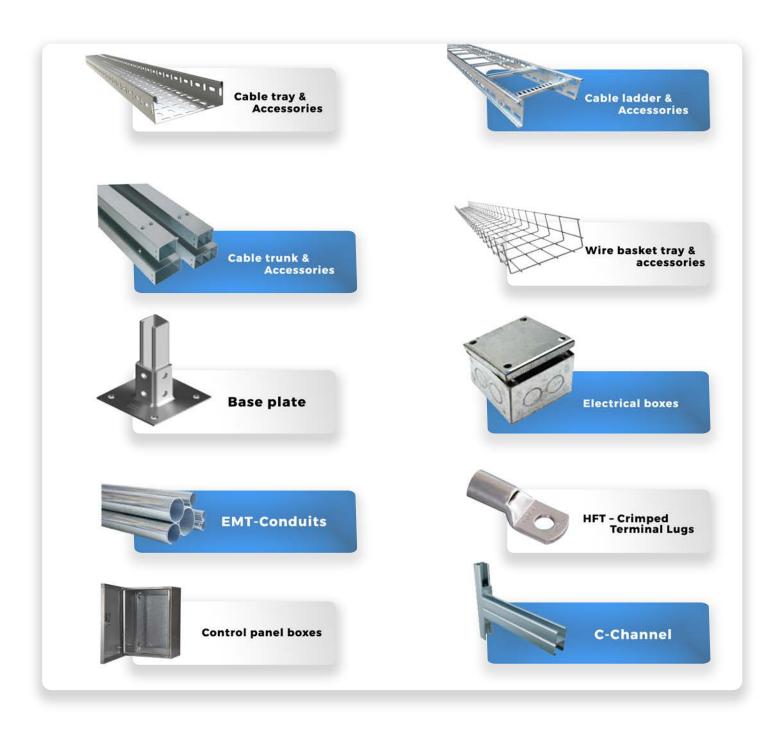




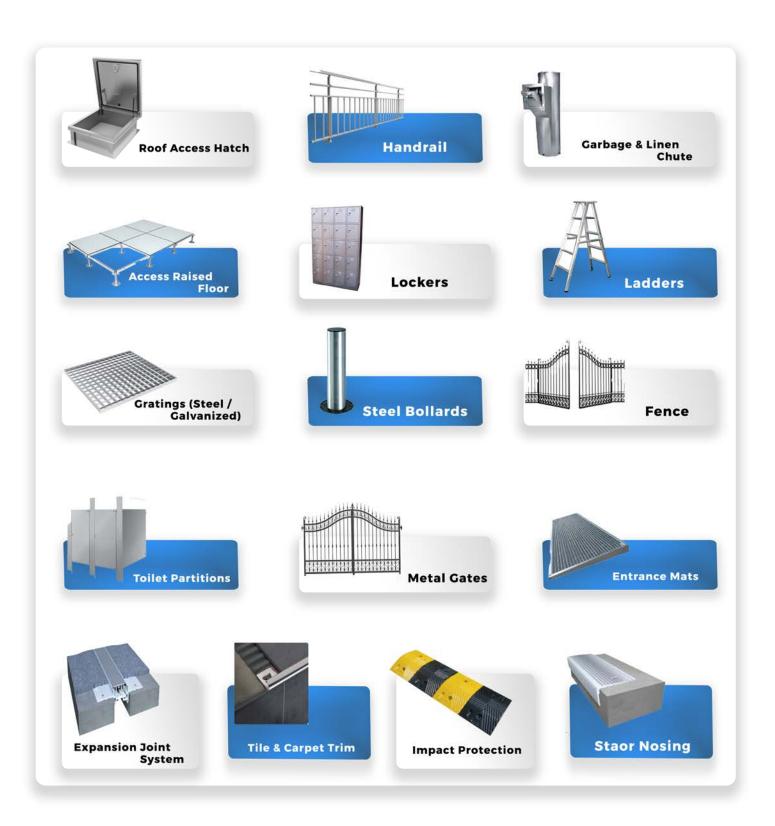
## **RANGE OF PRODUCTS**

CABLE MANAGEMENT SYSTEM

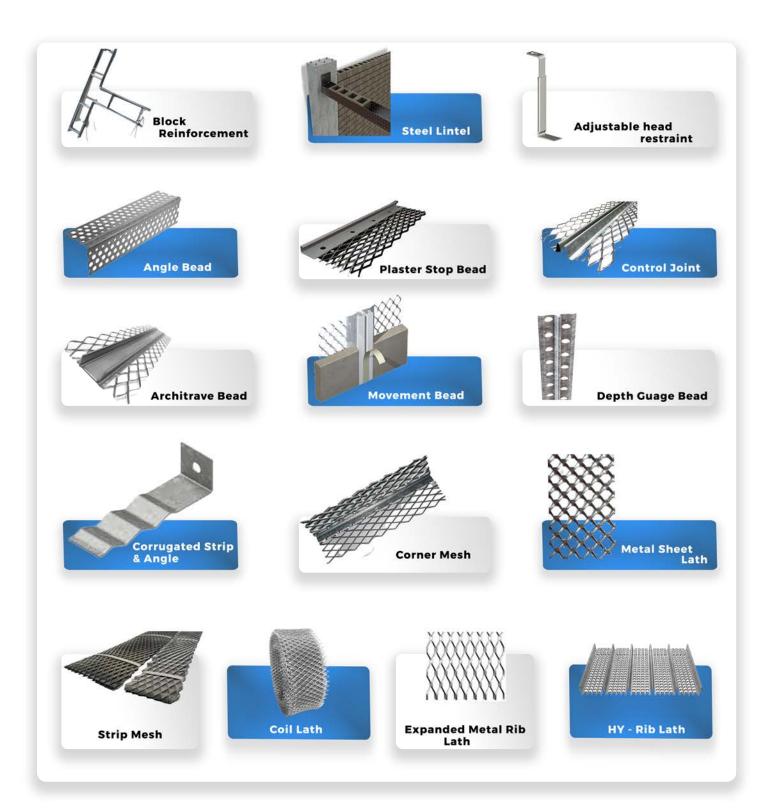
**NIPRAS** having a wide range of products for Cable Management system, Architectural Engineering Solutions, Building Material and more that are characterized in below categories to support the best interest for our customers.



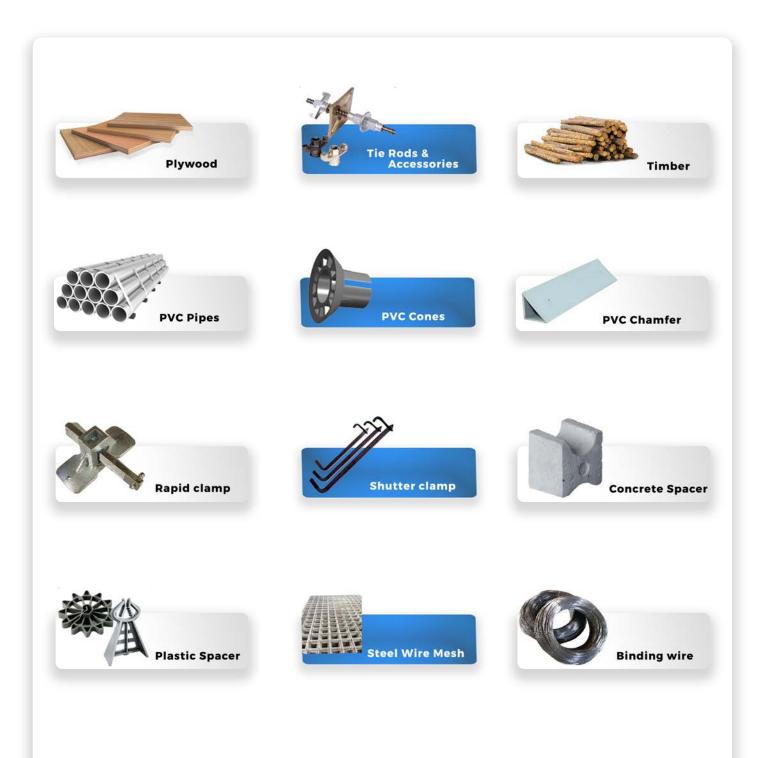
#### ARCHITECTURAL ENGINEERING SOLUTION



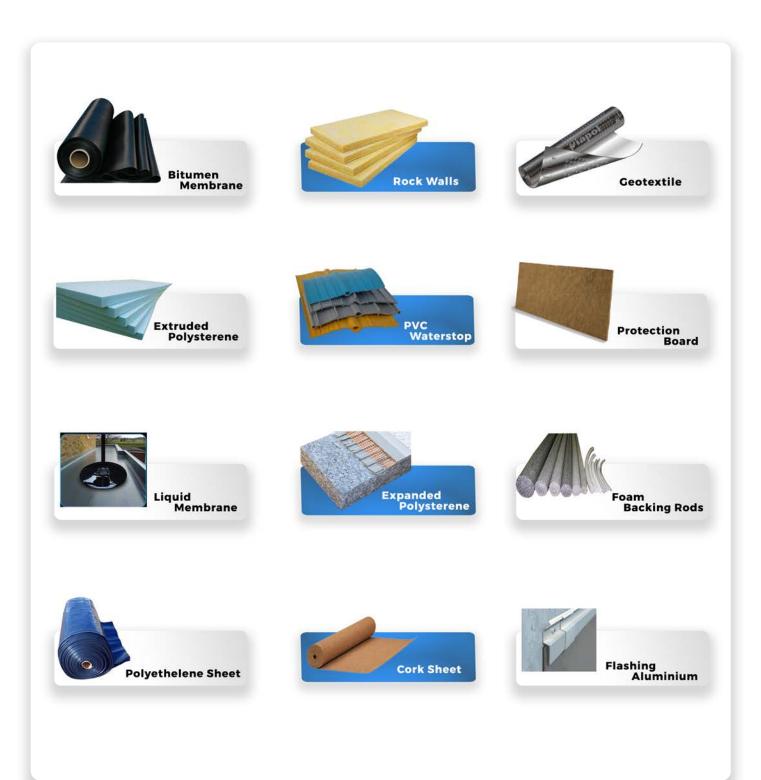
#### **BLOCK WORK AND PLASTERING ACCESSORIES**



#### **CONCRETE FORM WORK ACCESSORIES**



#### **WATER PROOFING & THERMAL INSULATION**



#### **GYPSUM PARTITIONS & SUSPENDED CEILING**



#### **PIPE CLAMP, HANGERS & FIXING LETRING**



#### **CLADDING ACCESSORIES**





NSF is fully committed to a quality policy which ensures delivery of its products and services "defect free on time". NSF provides quality management, co-ordination, production and processing, manufacture, and installation services throughout KSA and sometimes outside KSA. Since the establishment, NSF is primarily engaged in providing Architectural Engineering solutions in the market and aims to achieve a high standard of production and trading services.



#### **NSF POSSESS THE POLICY TO:**

- Manufacture and supply products which fully confirm to the customer's requirements, relating to quality, reliability, and delivery.
- Use the company's considerable experience and knowledge in the production of standard products to assist customers in the cost-effective design and development of both existing and new products.
- Ensure that suppliers of raw materials, goods and services confirm to all requirements and are of a consistently high quality, to enable the company to achieve its commitments to all customers.
- Recognize that the responsibility for quality lies with all employees of the company and hence to stimulate and encourage interest and pride in their work.
- Hold frequent Quality Management System review meetings to enable continual review of the suitability of the Quality poricy and all aspects of the Quality Management System.

These requirements of Quality Policies are compared to the requirements of ISO 9001 2015-Quality Policy. NSF strives to eliminate.















شركة نبراس العدن للصناعة NIPRAS METAL INDUSTRY Co.









