Pipeline Identification System

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INTRODUCTION

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Hazardous materials flow through miles of piping in many industrial & commercial facilities. Piping systems should be appropriately labeled to make people aware of the materials they carry.

In Industries large number of piping network is available. To make uniformity regarding identification of pipe line, pipe line identification system is required to be established.

Proactive approach to avoid any incident during handling/transfer of dangerous and hazardous substances is equally required at site because unmarked pipes are a danger to both life of the personnel and property damage of the company. Accidents, injuries and damage to machines and equipment can be caused by people's ignorance of the substances that flow through the pipes.

For example, a worker was sent to do maintenance on the. water line in one of the industry in Orissa and due to absence of any labeling system, he opened the Caustic Line and there was a fatality. Later on the management realized the importance of Pipeline Identification System and they introduced it in their plant.

Pipe marking labels must effectively communicate the contents of the pipes and give additional detail if special hazards (such as extreme temperatures or pressures) exist. The legend should be short in length and easy to understand. For example, the legend "Steam 100 PSIG" specifies the contents as well as the additional pressure hazard. An arrow should be used in conjunction with the legend to show which direction the material flows. If flow can be in both directions, arrows in both directions shall be displayed.

Intent and Purpose

The main objective is to reduce chances of accidents and damages in the operations of pipeline systems at plant/concerned safety district by providing a uniform colour identification system across Industries.

Identification in piping is being done by manual painting by various painters fur easy identification. But this activity shall have the risk of fire and hazards of paints to human being. Further, identification by painting may not be standard everywhere as different painters paint the same things in different manners in different plants using different types of paints shades. To overcome these hazards, pipeline identification system is recommended.

PIPELINE IDENTIFICATION SYSTEM

Why Pipeline Identification Markers are required ?

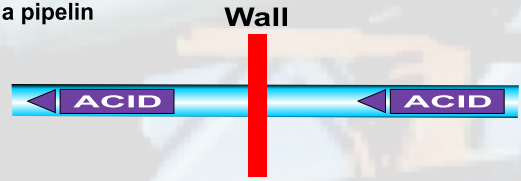
- Efficiently locating the Pipeline
- Minimization of time taken for completion of the Pipeline marking job as compared to old technique of painting.
- Very low cost system
- Lower risk of injury
- Lower risk of spills and leak during maintenance and renovation
- Optimization of Safety Management System
- Compliance to ISO/OSHAS norms
- Creates a Safer Workplace

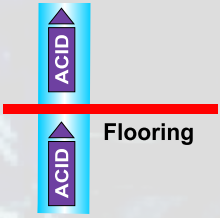
Where should pipe makers be applied?

- Where pipes Changes direction

- Every 7 to 14 metres (guideline only) on long straight pipeline

- On both sides of a pipelin



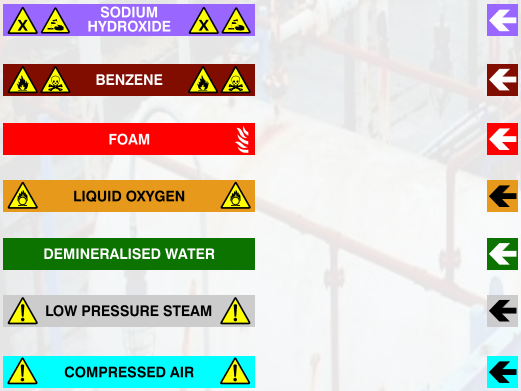


- Close to valves

Pipeline Marking System

includes

Main label & Directional Flow Arrow label



ILLUSTRATION

NASA Pipeline Markers - Easy system

Our polyester construction gives exceptional performance in the harshest environments - we have submitted the product to some of the toughest environmental tests there are. Hundreds of engineers have chosen our pipeline markers to help them come up with a quality solution for marking up the process pipes on platforms, refineries and a variety of process plants. Our product is easy to install, even in areas that are difficult to access. This is because it is a self adhesive label.

- Clean the Area of the Pipe where the marker is to be fixed.
- Just peel off the Main label and the directional flow arrow label and paste it on the Pipe.
- Cover the label with the protective sealant provided.

Pipeline Identification markers stocked in three sizes andsupplied in packs of 20 Nos of same type .These markers are manufcatured from clear flexible vinyl material with bond adhesive backing. Background colours conform to the Pipeline Colour recommendation of BS 1710 :1984 and with Safety symbols where appropriate in accordance with Health & Safety (Safety Signs & Signals)Regulations 1996.

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AVAILABLE SIZES :	8″x1″	10″x1.25″	12″x1.5″	18″x3″	32″x4″	36″x5″
MAIN LABELS	1″x1″	1.25″x1.25″	1.5″x1.5″	3″x3″	4″x4″	5″x5″
DIRECTIONAL FLOW ARROW						

Acid & Alkalis

- ACID — PI 09
- FORMIC ACID — PI 18
- NITRIC ACID — PI 27
- PHOSPHORIC ACID — PI 36
- SULPHURIC ACID — PI 45
- ACETIC ACID — PI 54
- HYDROGEN CHLORIDE — PI 63
- SODIUM NITRATE — PI 72
- NITRATE — PI 81
- PHENOL — PI 90
- CAUSTIC SODA — PI 99
- SODIUM SULPHIDE — PI 108
- ALKALI — PI 117
- AMMONIA — PI 126
- HYDROCHLORIC ACID — PI 135
- SODIUM HYDROXIDE — PI 153

Directional flow arrow for use with the main identification labels — PID 900

Mineral oils etc.

- BENZENE — PI 162
- TOLUENE — PI 171
- ACETONE — PI 180
- ALCOHOL — PI 189
- FUEL OIL — PI 198
- DIESEL OIL — PI 207
- KEROSENE — PI 216
- ETHANOL — PI 225
- OIL — PI 234
- HEATING OIL — PI 243
- WASTE SOLVENT — PI 252
- FORMALDEHYDE — PI 261
- HYDROGEN PEROXIDE — PI 270
- METHANOL — PI 279
- PROPANNOL — PI 288
- XYLENE — PI 297

Directional flow arrow for use with the main identification labels — PID 1800

Electricity

- ELECTRICITY — PI 306

Fire

- ELECTRICITY — PI 315
- FOAM — PI 324
- HOSE REEL — PI 333
- FIRM MAIN — PI 342

Directional flow arrow for use with the main identification labels — PID 2700

Steam

- STEAM — PI 351
- LOW PRESSURE STEAM — PI 360

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MAIN LABELS	1″x1″	1.25″x1.25″	1.5″x1.5″	3″x3″	4″x4″	5″x5″
DIRECTIONAL FLOW ARROW						

HIGH PRESSURE STEAM
PI 369

VAPOUR
PI 378

Directional flow arrow for use with the main identification labels
PID 3600

Gases

LIQUID NITROGEN
PI 387

LIQUID OXYGEN
PI 396

GAS
PI 405

ACETYLENE
PI 414

BUTANE
PI 423

PROPANE
PI 432

ETHYLENE
PI 441

NATURAL GAS
PI 450

HYDROGEN
PI 459

METHANE
PI 468

CHLORINE
PI 477

FUEL GAS
PI 486

AMMONIA
PI 495

ARGON
PI 504

NITROGEN
PI 513

CO_2
PI 522

INERT GAS
PI 531

HELIUM
PI 540

Directional flow arrow for use with the main identification labels
PID4500

Water

COLD WATER
PI 549

CONDENSATE
PI 558

COOLING WATER
PI 567

DEMINERALISED WATER
PI 576

DISTILLED WATER
PI 585

DOMESTIC WATER
PI 594

DRINKING WATER
PI 603

FRESH WATER
PI 612

HEATING
PI 621

HOT WATER
PI 630

NON DRINKING WATER
PI 639

POLLUTED WATER
PI 648

PURIFIED WATER
PI 657

RAIN WATER
PI 666

RECYCLED WATER
PI 675

SEA WATER
PI 684

UNTREATED WATER
PI 693

CHLORINATED WATER
PI 702

WASTE WATER
PI 711

Directional flow arrow for use with the main identification labels
PID 5400

Air

AIR
PI 720

COMPRESSED AIR
PI 729

COOLING AIR
PI 738

AIR CONDITINING
PI 747

EXTRACT AIR
PI 756

COLD AIR
PI 765

VACUUM
PI 774

WARM AIR
PI 783

BREATHING AIR
PI 792

VENTILATION AIR
PI 801

Directional flow arrow for use with the main identification labels
PID 6300

Note : *The Directional flow arrow Labels are to be used with the Main Labels of the corresponding size.*

Advantages of Pipeline Identification System / labels over traditional painting:-

- Efficient / Effective identification of Pipeline.
- Minimization of time taken for completion of Pipeline marking job as compared to technique of painting
- Lower risk of injury
- No risk of spills of paints during maintenance & renovation (i.e., Less hazardous compared to painting)
- Adherence to ISO norms; and is detailed with Caution symbols.
- Life of the Pipeline Identification system/labels or stickers ,minimum 7 -8 years. No tear, shear should take place in normal circumstances on the surface of the label. The damage to the label could occur only if any change in the original structure, or physical change in shape of pipe line surface is made.
- Resistance to high and low temperature -60 deg"Cto +204 deg C.

GUIDELINES FOR SELECTION OF SIZE OF PIPELINE IDENTIFICATION SYSTEM

Labels should be fixed on the pipeline as per size (Dia) of the pipeline as per following table.

Sl. No.	Outside Pipe Diameter Including insulation) (inch)	Main label Size (inch) (A)	Directional flow arrow label size (inch) (B)
1	0.75 - 1.25″	8″ X 1″	1″ X 1″
2	1.26 - 2″	10″ X 1.25″	1.25″ X 1.25″
3	2.1 - 6″	12″ X 1.5″	1.5″ X 1.5″
4	6.1 - 10″	18″ X 3″	3″ X 3″
5	10.1 - 18″	32″ X 4″	4″ X 4″
6	>18″	36″ X 5″	5″ X 5″

Pipeline Identification System

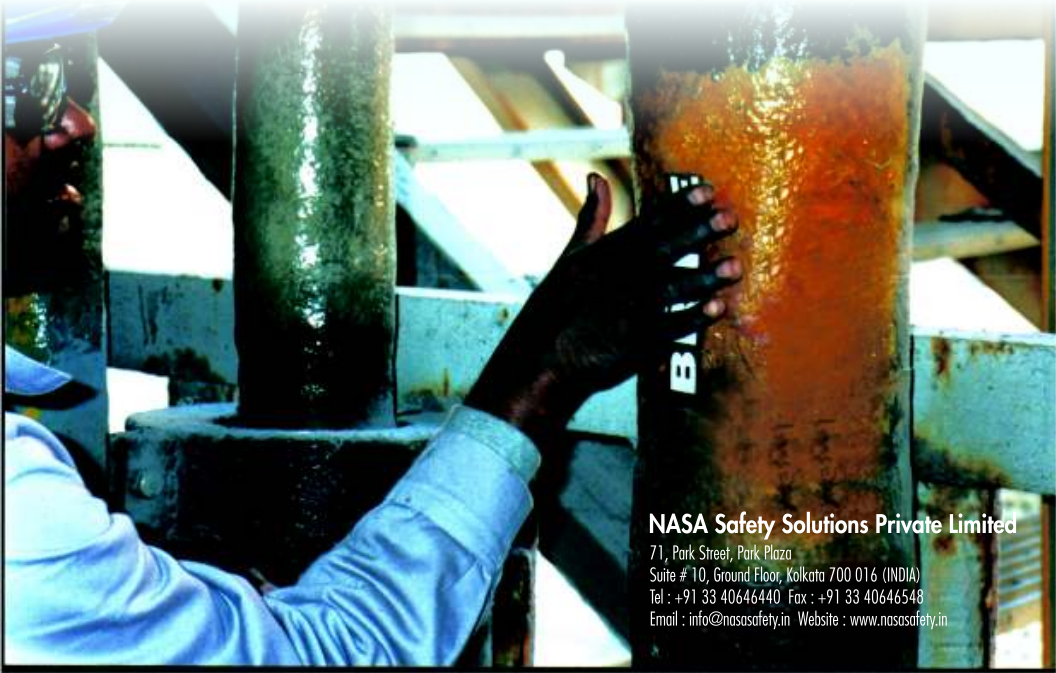
How to Order - Steps

1. Plan for which Part of the Plant you wish to put the Pipeline Markers. Which are the Pipelines you wish to put the Pipeline Identification System like Gas,Water,Oil Chemicals,Fluid,Air,Steam etc.

2. Calculate the approximate total length of each product line.On a General basis divide the total length of the Pipeline by 10 Mtrs , You would get the total Pipeline Marker quantity in nos.

3. Place your order to nearest packing available with us.Each packet comprises of 20 nos of Main label and 20 nos of Directional Flow Arrow.

4. We would take a maximum period of 4 weeks to supply the Pipeline Markers with the protective sealant to you.



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