



INGRESS PROTECTION (IP) RATINGS

LIST OF PROTECTION CLASSES

IP PROTECTION CLASSES TO DIN 40 050 SHEET 1

UP TO 1000 VAC AND 1500 VDC (UTE STANDARD C 200 10)

IP RATINGS CONSIST OF A TWO DIGIT NUMBER EXPLAINED BELOW:

THE TWO DIGITS CORRESPOND TO THE DESCRIPTION BY DIN 40 050 SHEET 1, IEC 144 AND 525 AS WELL AS UTE C 200 10.

1ST DIGIT DEGREE OF PROTECTION AGAINST TOUCHING AND FOREIGN MATTER

IP SPECIFICATIONS

- 0** NO PROTECTION.
- 1** PROTECTION AGAINST PENETRATION BY SOLID FOREIGN MATTERS LARGER THAN 50 MM (ACCIDENTAL TOUCHING BY HAND).
- 2** PROTECTION AGAINST PENETRATION BY SOLID FOREIGN MATTERS LARGER THAN 12 MM (TOUCHING WITH FINGERS).
- 3** PROTECTION AGAINST PENETRATION BY SOLID FOREIGN MATTERS LARGER THAN 2.5 MM (TOUCHING WITH TOOLS, WIRES LARGER THAN 2.5 MM).
- 4** PROTECTION AGAINST SOLID FOREIGN MATTERS LARGER THAN 1 MM (TOUCHING WITH TOOLS, WIRES LARGER THAN 1 MM).
- 5** COMPLETE PROTECTION FROM BEING TOUCHED. PROTECTION FROM HARMFUL DUST DEPOSITS - DUST PENETRATION IS NOT COMPLETELY PREVENTED.
- 6** COMPLETE PROTECTION FROM BEING TOUCHED. PROTECTION AGAINST PENETRATION BY DUST.

2ND DIGIT DEGREE OF PROTECTION AGAINST WATER

IP SPECIFICATIONS

- 0** NO PROTECTION.
- 1** PROTECTION AGAINST VERTICALLY DRIPPING WATER.
- 2** PROTECTION AGAINST DRIP WATER FALLING AT AN ANGLE OF UP TO 15 DEGREES.
- 3** PROTECTION AGAINST SPRAY WATER FALLING AT AN ANGLE OF UP TO 60 DEGREES.
- 4** PROTECTION AGAINST SPRAY WATER FROM ALL DIRECTIONS.
- 5** PROTECTION AGAINST WATER JETS FROM ALL DIRECTIONS
- 6** PROTECTION AGAINST TEMPORARY FLOODING, E.G., BY ROUGH SEA.
- 7** PROTECTION WHEN SUBMERSED IN WATER AT SPECIFIED PRESSURE AND UNSPECIFIED DURATION.
- 8** PROTECTION WHEN SUBMERSED IN WATER AT ELEVATED PRESSURE AND UNSPECIFIED TIME.

USE AND APPLICATION OF NYLON CABLE GRIPS

1. THE USE OF SYNTHETIC - CABLE GRIPS IS ALMOST UNLIMITED WITHIN THE ELECTRICAL AND ELECTRONICS INDUSTRY. INSTALLATIONS WHERE CABLES MUST BE LED SAFELY THROUGH A WALL OF AN ENCLOSURE WILL BE SPECIFIED WITH CABLE GRIPS. SYNTHETIC CABLE GRIPS ARE SPECIFIED TO:

- **SECURE THE CABLE** TO THE ENCLOSURE'S WALL TO PROVIDE EXCELLENT PULL-OUT RESISTANCE.
- **SEAL AND PROTECT** THE INSIDE OF THE ENCLOSURE FROM THE UNWANTED AFFECTS OF THE ENVIRONMENT. THESE CONTAMINANTS MAY BE WATER, GAS, CHEMICALS VAPORS, OR FUMES.
- **REDUCE MATERIAL COST** DUE TO USE OF LIGHTER, LESS EXPENSIVE MATERIALS, AS WELL AS, ELIMINATING THE NEED FOR RUNNING CONDUIT.

2. SOME OF THE TYPICAL APPLICATIONS USING CABLE GRIPS ARE:

- MACHINERY
- PROCESS EQUIPMENT ENGINEERING
- APPARATUS AND APPLIANCE CONSTRUCTION
- AIRCRAFT AND AUTOMOTIVE ENGINEERING
- LOCOMOTIVE ENGINEERING
- ELEVATOR ENGINEERING
- PLANT ENGINEERING
- CHEMICAL AND PHARMACEUTICAL INDUSTRIES
- REFINERIES
- NUCLEAR RESEARCH INSTITUTIONS
- PROCESS AUTOMATION AND PROCESS ENGINEERING
- INDOOR AND OUTDOOR ELECTRICAL INSTALLATIONS
- SWITCHGEAR AND DISTRIBUTION CONSTRUCTION
- EQUIPMENT FOR MILITARY PURPOSES
- MUNICIPAL AND UTILITY TYPE APPLICATIONS, SUCH AS POWER, ELECTRICITY AND GAS WORKS