



## Degree of Protection Against Solid Foreign Objects

First Code Number	Definition	Summary
0	-	Non-protected
1	The object probe, sphere of 50mm $\varnothing$ , shall not fully penetrate	Protected against solid foreign objects of 50mm $\varnothing$ and greater
2	The object probe, sphere of 12,5mm $\varnothing$ , shall not fully penetrate	Protected against solid foreign objects of 12,5mm $\varnothing$ and greater
3	The object probe of 2,5mm $\varnothing$ shall not penetrate at all	Protected against solid foreign objects of 2,5mm $\varnothing$ and greater
4	The object probe of 1,0mm $\varnothing$ shall not penetrate at all	Protected against solid foreign objects of 1,0mm $\varnothing$ and greater
5	Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety	Dust-protected
6	No ingress of dust	Dust-tight

## Degree of Protection Against Water

Second Code Number	Definition	Summary
0	-	Non-protected
1	Vertically falling drops shall have no harmful effects	Protected against vertically falling water drops
2	Vertically falling drops shall have no harmful effects when the enclosure is tilted at any angle up to 15° on either side of the vertical	Protected against vertically falling water drops when enclosure tilted up to 15°
3	Water sprayed at an angle up to 60° on either side of the vertical shall have no harmful effects	Protected against spraying water
4	Water splashed against the enclosure from any direction shall have no harmful effects	Protected against splashing water
5	Water projected in jets against the enclosure from any direction shall have no harmful effects	Protected against water jets
6	Water projected in powerful jets against the enclosure from any direction shall have no harmful effects	Protected against powerful water jets
7	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed in water under standardized conditions of pressure and time	Protected against the effects of temporary immersion in water
8	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is continuously immersed in water under conditions which shall be agreed between manufacturer and user but which are more severe than for numeral 7	Protected against the effects of continuous immersion in water

**example IP 54**

first code number 5 = dust-protected  
second code number 4 = protected against splashing water

Attention: code citation without engagement