

TECHNICAL DATA SHEET

BK- 530

HIGH TEMPERATURE BLACKENING PROCESS

BK- 530 is a blackening process for producing uniform black coatings on iron and steel by immersion process.

The process blackens wide range of cast iron, low and high carbon alloy steel

The ferroferric oxide layer produce on the base metal can withstand 2-6 hours of source play. For additional protection oil, waxing or lacquering should be applied.

MAKE UP:

Concentration BK 530 salt	850-950 gm/l
Temperature	138-145°C
Time	5-20 minutes

- Fill 2/3rd of cold water.
- Dissolve slowly with stirring required quantity of salt and make up the operating level by adding water.
- Heat the solution and start process.

PROCESS:

- Metal cleaner P-20, temperature 70-75°C
- Water rinse
- Water rinse
- Acid dip in Hcl / H₂SO₄
- Water rinse
- Water rinse
- Blackening
- Water rinse
- Chromic acid dip (0.5%) optional
- Oiling

EQUIPMENT:

Stainless steel 304/ 316 tanks of sufficiently heavy guage are recommended.
As the solution weight is approx 1.8 Kg /lt.

HEATING:

Stainless steel immersion heaters / coils are recommended.

For Gas heating burner should be placed underneath the tank. After the operating temperature is reached, less heat is required and should be adjusted accordingly.

CONTROL:**TEMPERATURE:**

Temperature for blackening should be maintained within the operating range.

If the solution boils below 138⁰C, it indicates the addition of salts.

The solution becomes concentrated due to high temperature usage and when the boiling point reaches 142⁰C water must be added to lower the boiling point to 138⁰C.

Care must be taken for careful addition of water as splattering is observed due to high boiling point.

CONCENTRATION:

Pipette 10 ml of bath solution in 100 ml standard volumetric flask. Dilute it to 100 ml.

Now, Pipette 5 ml of bath solution. Add 40-50 ml DM water and few drops of phenolphthalein indicator and titrate with 1 N sulphuric acid to colorless end point.

Calculation:

$$R \times N \text{ H}_2\text{SO}_4 \times 114 = \text{g/l concentration of BK- 530}$$

CAUTION:

BK- 530 contain caustic soda and oxidizing agents, protecting clothing, face shields should be worn while operating the bath. In case of contact with skin, wash with ample quantity of water and seek medical attention if necessary.

WASTE DISPOSAL:

BK- 530 should be neutralized before discharging into sewage.

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