

# MASTERTOP<sup>®</sup> 230

Heavy duty high strength iron aggregate topping

## DESCRIPTION

**MASTERTOP 230** is an iron aggregate topping designed to provide industrial floors with extra heavy-duty protection against abrasion and impact. It can be applied over correctly prepared existing hardened concrete to give an appreciably longer service life than either normal high strength concrete or natural aggregate toppings.

**MASTERTOP 230** has a lower modulus of elasticity than other toppings of equivalent compressive strength. Thus it is less brittle and more resistant to dynamic loads. Impact resistance and total energy absorbing capacity (toughness) are also improved.

## RECOMMENDED FOR

- Key areas subject to heavy abrasive traffic, impact and continuous wear, such as loading docks, aisles, waste transfer facilities, truck or tractor repair areas, and mill scale sluiceways.
- Areas where safety authorities have deemed other floor surfaces hazardous because of excessive wear, dangerously buckled steel plates, etc.
- Mining workshops with tracked vehicles.
- Floors with scraper blades in constant contact.

**MASTERTOP 230** is not recommended for areas where steel plate has worn through in less than one year, or where the floor surface is exposed to acids, their salts or other materials which seriously and rapidly attack cement and/or iron. For applications under these service conditions consult BASF about their range of chemical resistant flooring systems, such as **MASTERTOP 1200 Series** and **UCRETE**.

## FEATURES AND BENEFITS

- **Ease of application** - extended working life at screedable consistency (130 to 180mm slump) allows ample time to place, float and finish. Rotary compactors are not required.
- **Heavy duty, durable industrial floor topping** - formulated to be applied at a thickness of 13 to 40mm, provides compressive strengths equivalent or superior to no-slump and other toppings.
- **High abrasion resistance** - eight times more wear resistance than plain concrete.
- **Greater toughness** - energy absorbing capacity is significantly greater than normal high strength concrete or natural aggregate toppings.
- **Increased impact resistance** - four times greater than plain concrete.
- **High density surface** - resists oil and grease penetration, reduces dusting and absorption.
- **Easier to clean** - lower maintenance costs.
- **Protects against joint deterioration** - iron armoring eliminates the risk of dangerous protruding or buckled joints from steel tiles, minimises damage to production goods and increases the life of materials handling equipment.

## PERFORMANCE DATA

### Compressive Strength

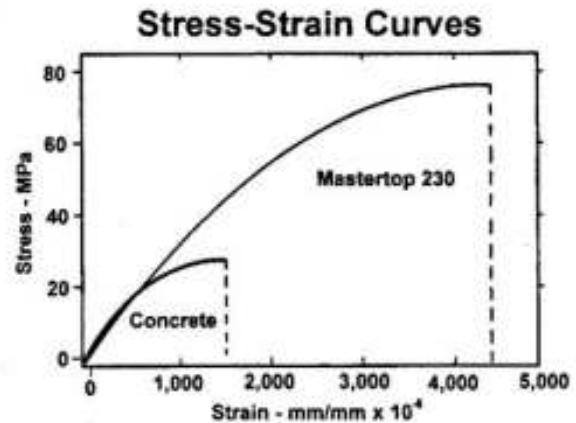
Typical compressive strengths for 50mm cubes, cured at 21°C, mixed to the recommended consistency using 2.4 litres of water per 25kg bag.

Age	MPa
24 hours	47
3 days	60
7 days	68
28 days	88

NOTE: The data shown here is based on controlled laboratory tests. Reasonable variations from the results shown here may be experienced as a result of jobsite conditions. Field and laboratory tests should be controlled on the basis of desired placing consistency rather than strictly on the water content. Mix an entire bag of **MASTERTOP 230** when preparing cubes for strength tests.

### Stress-Strain Tests

Typical stress-strain test data comparing the basic material properties of **MASTERTOP 230** to 28MPa plain concrete, using 76mmx152mm cylinder cured at 21°C.



	MASTERTOP 230	Plain Concrete
Unit weight, kg/m <sup>3</sup>	3555	2325
Modulus of elasticity, 10 <sup>6</sup> MPa	2.7	3.1
Maximum Strain, mm/mm x 10 <sup>-6</sup>	4450	1620
Toughness, MPa x 10 <sup>-2</sup>	21	3

Note: This data is included as reference to demonstrate the improved engineering properties of **MASTERTOP 230** topping as opposed to a plain concrete floor.



The Chemical Company

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## Abrasion Resistance (ASTM C779)

0.20mm at 60 minutes (33MPa concrete more than 1.4mm at 60 minutes)

## Impact resistance (LA Rattler)

30% weight Loss (33MPa concrete has 70% loss of weight)

(See Technical Sheet 22 for explanation of abrasion and impact tests and how they relate to long-term durability of the floor)

## ESTIMATING DATA

One 25kg bag of **MASTERTOP 230** mixed with 9-10% drinkable water (2.4L) provides approximately 0.0077m<sup>3</sup> of screedable topping at 150mm slump.

### Approximate coverage:

Desired thickness	1 x 25kg bag covers	Quantity required per m <sup>2</sup>
13mm (min.)	0.59 m <sup>2</sup>	45 kgs
25mm	0.31 m <sup>2</sup>	80 kgs
40mm (max.)	0.19 m <sup>2</sup>	130 kgs

Because the depth of surface preparation may vary from design it is best to overestimate the quantity required by 10-20% for the first stages, until actual usage is established.

## APPLICATION

Please refer to BASF Application Guide for **MASTERTOP 230** for complete application and curing instructions.

## CLEANING

**MASTERTOP 230** is a cementitious product. Tools should be cleaned with water before the material hardens

## PACKAGING

**MASTERTOP 230** is packaged in 25kg moisture resistant paper bags.

## SHELF LIFE

**MASTERTOP 230** can be stored in tightly sealed original bags for 12 months if kept dry and at moderate temperature.

## FIELD SERVICE

BASF recommends that the user request the service of the local representative for a pre-job conference and carefully plan each step of the installation.

## PRECAUTIONS

- 1) Use only drinkable water for mixing.
- 2) The cementitious material in **MASTERTOP 230** may cause irritation. Avoid contact with eyes and skin, and prolonged contact with clothing. In case of contact with eyes, immediately flush with water for at least 15 minutes. Call a physician. Wash skin thoroughly after handling product. Keep product out of reach of children.
- 3) **MASTERTOP 230** is best applied over concrete with a minimum compressive strength of 30MPa.

AMt230/10/0512

## STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

## NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF**, are responsible for carrying out procedures appropriate to a specific application.

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