



Material Datasheet

RUGBY® 40N/mm² CONCRETE



CEMEX is a world leader in sales of packed cement and cementitious products, backed with technical expertise in their use. The Rugby® range of concretes, mortars and ancillary products provides the complete solution for most building and landscaping applications.

Rugby® 40N/mm² Concrete has been specifically designed to give increased strength levels compared to that of the General Purpose Concrete mix. This product is intended for use in structural concrete or exacting applications where a high compressive strength is required.

Complies with BS5838: Part 1:1980

Features / benefits / applications

- Heavy duty concrete designed for industrial and commercial applications
- Typical coverage – 0.115m² at 100mm thickness
- Characteristic strength 40N/mm² (MPa) at 28 days using the recommended quantity of clean mixing water

Coverage guide

Thickness	Approx. coverage per 25kg bag
25mm	0.46m ²
50mm	0.23m ²
75mm	0.15m ²
100mm	0.115m ²

Minimum thickness recommended for concrete pathways is 75mm.

For driveways with a firm subsoil a minimum thickness of 100mm is recommended.

Storage Conditions and Soluble Chromium (VI)

This product must be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught. If stored correctly and used within NINE months of the date shown on the front of the packaging, the activity of the reducing agent* will be maintained and this product will contain, when mixed with water, no more than 0.0002% (2ppm) soluble Chromium (VI) of the total dry weight of the cement.

Use of this product after the end of the declared storage period may increase risk of an allergic reaction.

*Added to control the level of soluble Chromium (VI)

Compressive Strength

When mixed with water to a medium workability (50mm to 70mm slump) Rugby® 40 N/mm² Concrete is designed to achieve a minimum strength of 40 N/mm² (MPa) when tested in accordance with BS EN 12390 -2/3.



CEMEX UK Cement Ltd

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Health and safety

Wet Concrete: Avoid skin and eye contact. The risks of dermatitis and burns are increased if the material is allowed to continue rubbing against the skin (e.g. inside boots, in gloves or through saturated clothing). Do not kneel or sit on the wet materials without the correct personal protective clothing.

Concrete dust: The creation of dust from the cutting or surface treatment of hardened concrete should be kept to a minimum, with work methods and engineering control measures being used to reduce exposure. It is also strongly advised to use respiratory protective equipment in such circumstances.

Bagged dry-mix concrete: When handling bags take care when lifting. Due regard should be paid to the risks outlined in the Manual Handling Operations Regulations 1992. Some bags may have a small amount of cement on the outer surface. Appropriate personal protective clothing should therefore be used whilst handling.

Personal Protective Equipment

Respiratory Protection: Suitable respiratory protection (HSE approved standard) should be worn.

Hand and Skin Protection: Protective clothing should be worn which ensures that concrete does not come into contact with the skin. Wear waterproof gloves, waterproof trousers and boots, also knee pads if kneeling down to finish a surface. Should wet concrete, mortar or screed get inside boots, gloves or other protective clothing then this protective clothing should be immediately removed and the skin thoroughly washed as well as the protective clothing/footwear.

Eye Protection: Dust-proof goggles (HSE approved standard) should be worn whenever there is a risk of cement powder or any cement/water mixture entering the eye. Suitable protection is advisable where there is a risk of material splashing.

A complete COSHH Health & Safety Datasheet for Concrete, Mortar and Screed is available to download from our website www.cemex.co.uk/health&safety

Mixing and Usage Guide

Do not use when air temperature is below +5°C or when ground is frozen

Approx. 2 litres of clean water will be required for the contents of a 25kg bag. Additional water may be added if necessary to obtain the workability required for easy placing and full compaction, but avoid using excessive amounts of water as it will reduce the strength of the hardened concrete. The mix should be cohesive and not sloppy. Use only tap water, or water that is known to be clean and free of any contamination.

CAUTION - TOO MUCH WATER WILL WEAKEN THE MIX

For best results use a drum or pan mixer:

- 1: Empty contents direct from the bag into the mixer and blend until uniform.
- 2: Slowly add the water until required consistency or slump is achieved.

Alternatively you will need a clean flat surface, a shovel and a watering can – preferably one fitted with a rose:

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www.cemex.co.uk/rugby

1. Empty contents direct from the bag onto a clean flat surface and mix the dry contents thoroughly before adding water.
2. Make a volcano shaped heap with a crater at the top. Commence adding the water, taking care not to let it run over the edges.
3. Shovel the contents into the water, mixing thoroughly. When the water disappears form a new crater and repeat.
4. As the mix starts to combine, add the water more carefully. Just enough to hold the ingredients together until required consistency is achieved. Finally to test for workability, chop through the mix with the back of the shovel. Check for air pockets, ideally the mix should be moist and able to hold its shape.

Once in place, concrete requires moisture to develop its full strength and premature drying out must be avoided. In normal conditions and at temperatures in excess of 10°C, concrete should be cured under damp conditions for 1 to 3 days (cover with curing membrane, plastic sheeting or wet Hessian); at temperatures below 10°C, this curing time should be doubled.

NOTE: Ensure all tools and equipment are cleaned thoroughly with water prior to the material setting.

CEMEX UK Cement Ltd cannot accept responsibility for unsatisfactory concrete where workmanship has not been carried out in accordance with good practice.

Helpful Tips

Freshly mixed concrete contains trapped air. This should be removed by compacting or tamping the concrete into place. This will also assist in making a smoother surface. The use of a steel float will produce a flat, smooth finish.

If you are using formwork, make sure it is strong enough to resist the weight of the fresh concrete.

Concrete hardens because cement and water react together chemically. Freshly placed concrete should be protected against strong sun or wind by covering to prevent premature drying.

Do not commence laying concrete in frosty conditions. If frost does occur while the concrete is fresh then cover with a layer of insulation as soon as possible.

If using for post fixing, allow 2/3 days to elapse before adding weight to the post.

Sustainability

As one of the UK's largest suppliers of building material solutions, CEMEX UK is committed to sustainable development across the business. The principle operations of our business are raw materials extraction, processing, distribution and re-cycling of building materials. CEMEX embraces the challenges of sustainable development, in striving to be socially, economically and environmentally responsible in everything we do to safeguard the needs of future generations. From a commercial perspective, a sustainable approach will allow CEMEX to continue as a preferred supplier to the industry, to drive further efficiencies and to ensure availability of long-term resources.

To deliver this promise CEMEX track the following indicators:

1. Reducing emissions
2. Improving efficiency of production and logistics
3. Developing innovative new products and services
4. Engaging employees
5. Increasing transparent dialogue with stakeholders
6. Measuring and controlling impacts
7. Contributing to sustainable communities