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BEST PRACTICES GUIDELINE:



ASPASA@WORK

ASPASA AND THE READY- MIX ORDERS



BPG 32

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1. INTRODUCTION

Being in the aggregate, sand and mining industry does result that **ASPASA** Members are also involved in Readymix, Concrete and Infrastructure development.

It has become evident that the users of our industries products, often don't understand the issues and the use of Readymix Concrete and how to order it.

ASPASA hereby wishes to share some best practice steps in this process.

It is trusted that **ASPASA** members share this with their clients:



The banner features the ASPASA logo at the top left, with contact information (Tel: +27 11 791 3327 | email: office@aspasa.co.za) and navigation buttons for 'Regions' and 'Membership' at the top right. Below this is a navigation menu with icons and labels for 'LEGAL', 'HEALTH & SAFETY', 'ENVIRONMENTAL', 'GOVT. LIAISON', 'HR-TRAINING', 'TRANSPORT', 'TECHNICAL', and 'ENGINEERING'. The main text of the banner asks 'IS YOUR SURFACE MINING OPERATION COMPLIANT?' and 'ASPASA AT WORK'. At the bottom, it states 'NO MATTER WHAT TYPE OF SURFACE MINE OR QUARRY - JOIN ASPASA - WE GOT YOU COVERED'.

2. HEALTH & SAFETY – NOTE THE HAZARDS



Where skin is in contact with fresh concrete, skin irritations are likely to occur owing to the alkaline nature of cement. The abrasive effects of sand and aggregate in the concrete can aggravate the condition.

Potential effects range from dry skin, irritant contact dermatitis, to – in cases prolonged exposure – severe burns.

Take precautions to avoid dry cement entering the eyes, mouths and nose when mixing mortar or concrete by wearing suitable protective clothing. Take care to prevent fresh concrete from entering boots and use working methods that do not require personnel to kneel in fresh concrete.

If cement or concrete enters the eye, immediately wash it out thoroughly with clean water and seek medical treatment without delay.

Wash wet concrete off the skin immediately. Barrier creams may be used to supplement protective clothing but are not an alternative means of protection.

Lifting and placing concrete:

Ready-mixed concrete is heavy, with a standard wheelbarrow load weighing over 100kg, so lifting/carrying just a small volume may cause physical injury.

It is therefore essential that you follow health and safety regulations in order that you may place, compact and finish the work without straining yourself.

Use of vibrating pokers and equipment:

Certain types of plant create a large amount of vibrating during use (for example pneumatic hammers, drills grinders and vibrating pokers).

Prolonged exposure to vibration can cause hand arm vibration syndrome (HAVS).

It is possible to reduce the effects of vibration by selecting plant with vibration dampers, by using anti-vibration gloves, taking regular breaks and/or keeping your hands warm in cold weather.

Please seek advice from the manufacturer with regards to the use of this type of equipment.



3. HOW DOES READY-MIX GET ORGANISED?

Ordering

3.1 Enquiry and tender stage:

As much information as possible should be provided to the ready-mix concrete company at the enquiry/tender stage.



The contract specification may contain specific information pertaining to constituent material restrictions, minimum cement content, contents and/or maximum water cement ratios and it is therefore essential that the ready-mixed concrete supplier has sight of this order to determine if the locally held materials will be suitable and/or whether alternative materials need to be sourced.

Please note that if you do not supply the full contract specification, this may lead to incorrect concrete being ordered.

Additionally, it is essential that the correct consistence/workability is specified for the job in hand at this stage.

An estimate of the volume of concrete required is essential. However, any additional

information pertaining to “placement rates” would also be extremely useful, as forward planning will allow the ready-mixed concrete producer to plan for the use of additional vehicles and/or late working etc.

3.2 Placement of order:

To avoid confusion, always make reference to the quotation and concrete reference number or letter when ordering rather than referring to the concrete description or part of it, as it is highly likely that a number of concretes will have the same compressive strength class, but may then differ in terms of the specified maximum water cement ratio and or minimum cement content.

Your order and subsequent delivery of ready-mixed concrete will be based upon the requested consistence/workability; however this may be amended subject to additional cost where necessary. In this respect, additional cost may be incurred if the original consistence/workability of the concrete is increased, as additional cementitious material will be required to maintain the strength and/or maximum water cement ratio requirements.



Please order the correct consistence for the job in hand, rather than adding water on site, as this is bad practice and will adversely affect the quality of the final product. It will also render void any guarantee with regards to the concrete.

Please also allow sufficient lead time for delivery when placing your order.

3.3 Specific advice for DIY customers:



Ready-mixed concrete companies can advise you as to the recommended concrete to be used (based upon relevant SABS 878 Standards), and will also be able to help with regard to calculating the quantities/volume of concrete required.

Please ask about the use of “self-compacting concrete” as this may be an ideal option with regard to ease of placement, serving to reduce your time and effort and also your overall costs. However, please be aware that this is only suitable for projects where the top surface is approximately level.

Coloured and pattern imprinted concretes are also available (please ask the ready-mixed concrete company for more details).

3.4 Delivery

Most ready-mixed concrete companies have a selection of delivery vehicles, which vary in design and size to suit the type of work undertaken.

Generally, delivery vehicles are available from 2m³ to 8m³, with the typical size being 6m³.

The typical dimensions of a 6m³ trucks are given below:

Size:

Approximately 9m long, 2.5m wide and 3.8m high.

Weight:

Approximately 10 tonnes when empty and 25 tonnes when fully loaded with normal weight ready-mixed concrete.

Replacement from chute:

On arrival at site, the ready-mixed concrete is discharged in a controlled manner down a chute that extends approximately 7.7m from the back of the vehicle.

The chute can be maneuvered from side to side, and to a limited extent vertically to assist in discharging the concrete as close as possible to its final position.

3.5 Alternate delivery vehicle

Some ready-mixed concrete companies can offer specially designed delivery vehicles that incorporate either a “concrete pump” or “conveyor”.

The ready-mixed concrete company should be consulted with regard to availability of pump and conveyor trucks as well as their placement distance, height, weight, dimensions and extension capabilities.



Safe access and discharge:

Safe access for the delivery vehicle should be provided, taking into consideration the size and weight of the truck when loaded with ready-mixed concrete, and the ground conditions/access.

Please note that the truck driver will maintain a safe distance from any excavation or area considered dangerous.

Hence, please consider how the concrete is to be moved from the point of discharge to its final position prior to placing an order.

Part load charges:

“Part load” charges may apply. The cost of this will be in-built into your quotation at the enquiry stage. However, please be aware that if you “under order” and require an additional delivery to complete the job (often quite small in volume terms), this may be relatively expensive due to the application of further “part load” charges. Advice should be sought from the ready-mixed concrete company.

3.6 Waiting time charges:

Generally, ready-mixed concrete companies will need a period of time for adequate discharge, which is free of charge.

However, please be aware that charges may be incurred following expiry of this period.

Advice should be sought from the ready-mixed concrete company.

Returned concrete:

Please be aware that if you have over-ordered and wish to return any ready-mixed concrete which has not been discharged from the delivery vehicle, a charge may be incurred. Advice should be sought from the ready-mixed concrete company.

4. IN CONCLUSION

The production, ordering, delivering and handling of concrete ordered is not just a simple exercise. The process is complicated and needs to be supervised very carefully. Always ask your reputable Ready-mix supplier. Don't use disreputable suppliers. Quality on this part of the industry is crucial and important.

Kind regards,


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