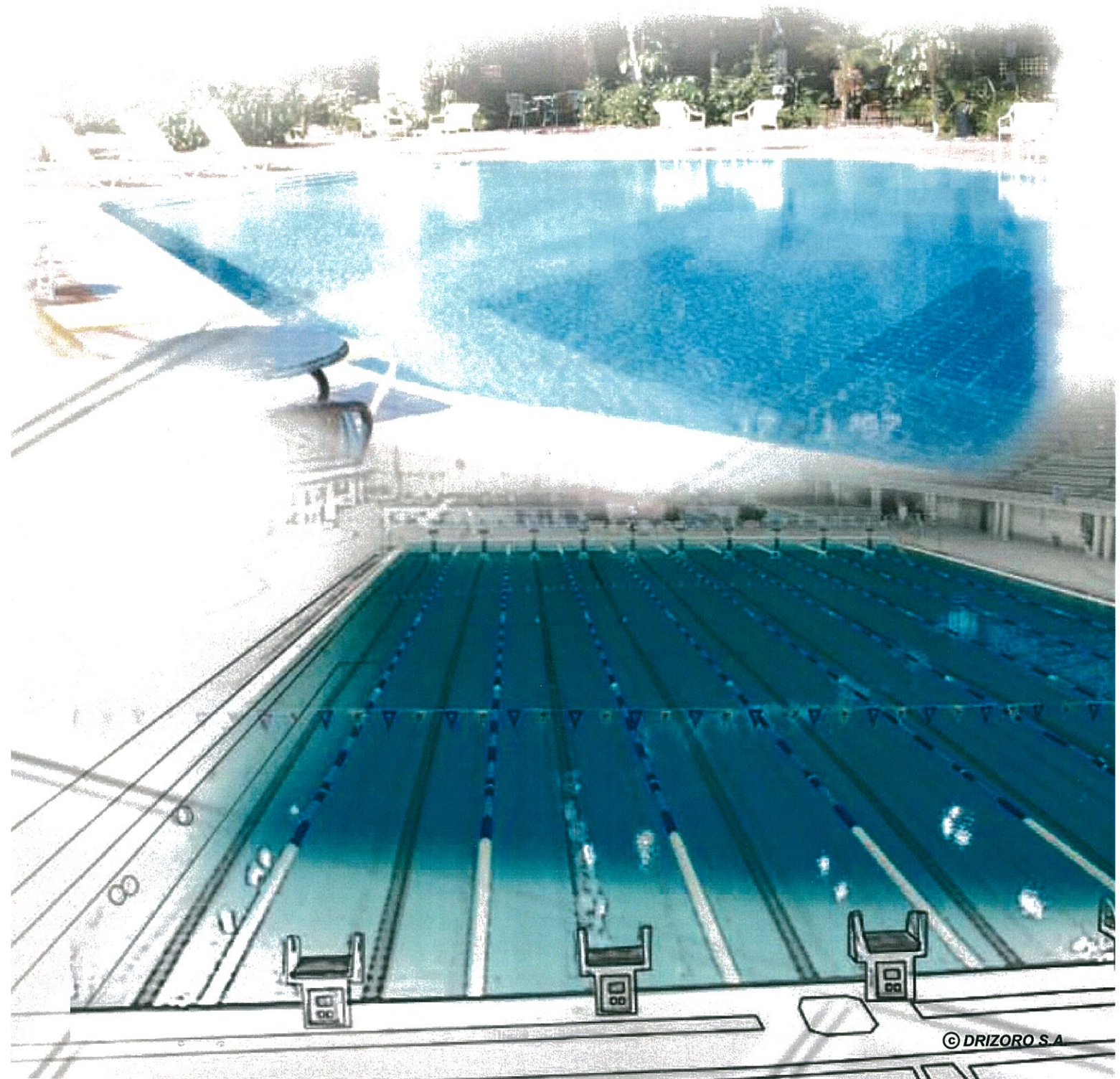


Waterproofing of Swimming Pools



DRIZORO, S.A.

DRIZORO, S.A., Spanish Company established 1977, develops its activity in the field of chemical products for the building industry and it represents an important firm in this sector.

DRIZORO S.A. has an International Division that offers a permanent contact and technical assistance to its customers with presence in the more than thirty countries and five continents wherein, quality, price and service to customers are determinant factors.

For 30 years, **DRIZORO S.A.** has developed an industrial activity based on the Research & Development of new products and systems, the use of the most advanced manufacture techniques and the commercialization of the most innovative construction products. This activity has made that Company becomes a reference firm in the building sector in as significant areas as the waterproofing, repair and strengthening of concrete structures, the restoration, protection and decoration of façades and historic buildings, the flooring systems for industrial, residential or commercial buildings and finally, the interior or exterior decorative finishes for surfaces.

The commitment with the continuous improvement of the product range and the manufacture procedures, taking into account the most advanced technology, have led to **DRIZORO S.A.** to the implantation of an Integrated Quality and Environment Management System, which is based on the **ISO 9001:2000** and **ISO 14001:2004** standards.



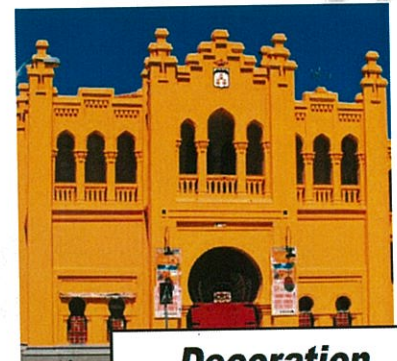
DRIZORO Technical Solutions



Waterproofing



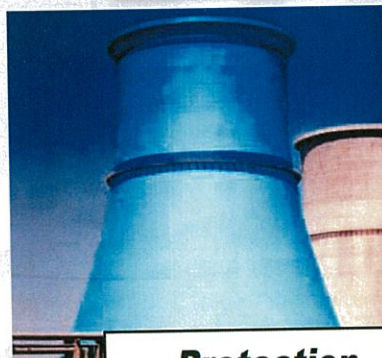
Strengthening



Decoration



Repair



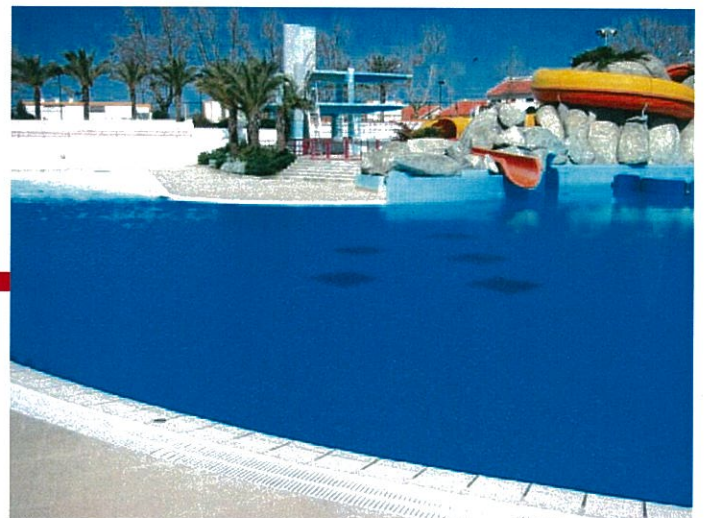
Protection



Other uses

Waterproofing of Swimming Pools

Nowadays, swimming pools are one of the more extended construction elements which, require the use of products with the highest levels of technical characteristics and requirements in relation to waterproofing and mechanical properties. From the point of view that an appropriate waterproof and protective coating provides a long lasting for water retaining concrete structures, **DRIZORO, S.A.** according with its philosophy of innovation, give to the customers the most suitable waterproofing systems which have been specifically designed for each case and specifications in particular. In addition, these proposed systems always respect the environment requirements and water quality regulations.



DRIZORO S.A. has focused on developing and implementing technical solutions for waterproofing of swimming pools. These proposed solutions have several values or technical requirements of durability, chemical resistance, breathability, mechanical strengths and performance with the purpose of satisfying the most exigent claims from the customers.

Proposed waterproofing systems for swimming pools provides a water-tight surface, i.e. a surface with no water leaks due to filtrations, and also protect the concrete surface against any chemical attack in order to avoid the deterioration of the water retaining structure. In addition, these systems provide the most suitable surface for placing of the top-coating which are used at swimming pool such as ceramic or tiles. Also the proposed systems tackle the treatment of outstanding points which are present in the swimming pool such as expansion joints, cold joints, slab-wall encounters, drainages, overflow points, skimmers, passing pipes, focus, stairs, etc.

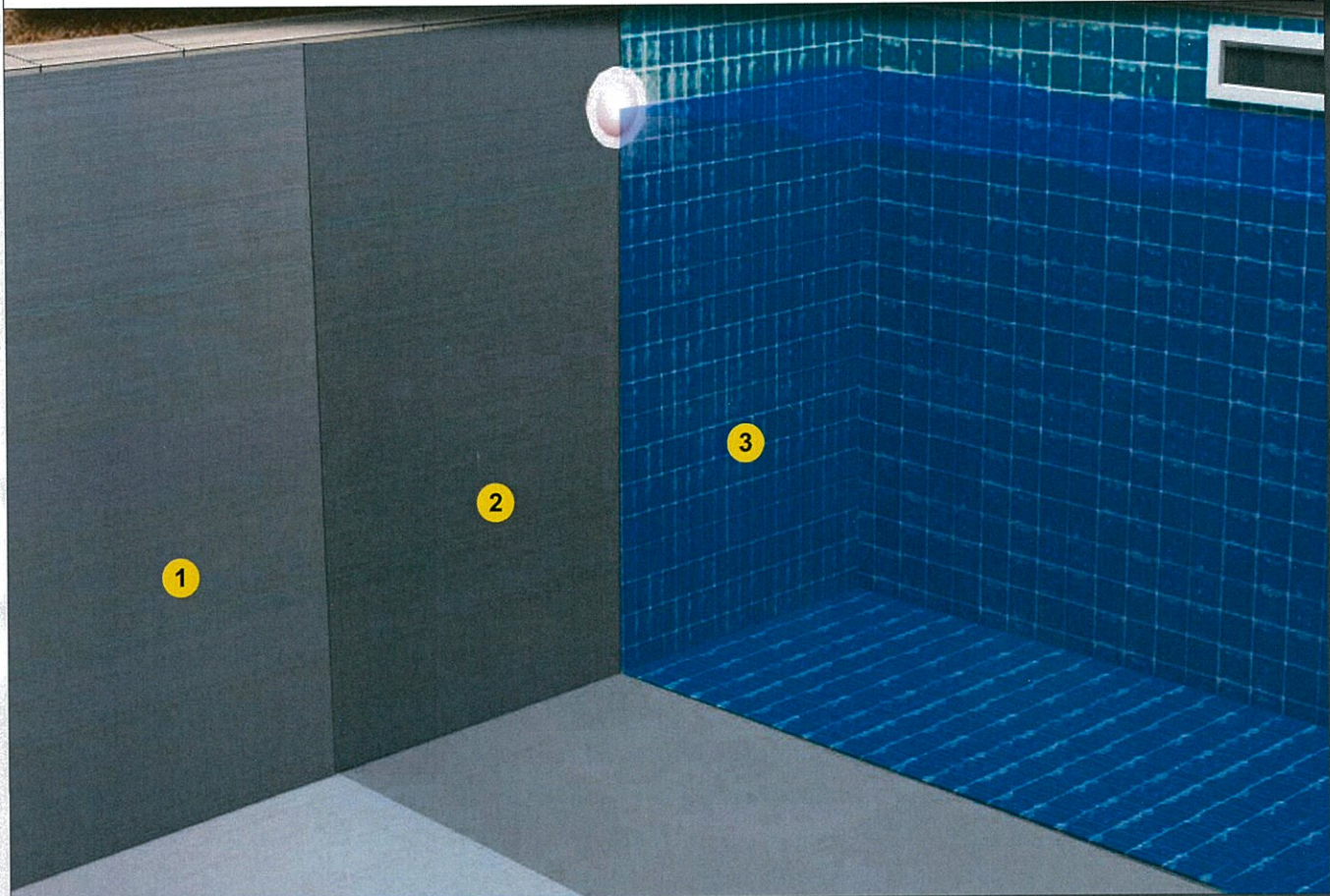


Waterproofing of Swimming Pool

MAXSEAL FLEX System

MAXSEAL® FLEX System for waterproofing of swimming pools is composed of a two-component and cement-based waterproofing mortar specifically designed for permanent immersion applications in water with high performance at both negative and positive pressure hydrostatic conditions, i.e. allows the substrate to breathe. A total watertight coating is achieved where two coats are applied with a total coverage of 2,0–3,0 kg/m² (total thickness of about 2 mm). In addition, it is a suitable system for concrete substrates with micro-fissures or subjected to vibrations or movements, acting as anti-fracture membrane. On the other hand, **MAXSEAL® FLEX** System withstands abrasion due to flowing water and shows a good level of chemical resistance to water with a high level of chlorine.

MAXSEAL® FLEX is an optimum solution for waterproofing of reservoirs and other water retaining structures due to the protective properties, long lasting, elasticity and high performance.



- 1.- 1st coat of **MAXSEAL® FLEX** waterproofing mortar reinforced with **DRIZORO® 58** fiber-glass mesh
- 2.- 2nd coat of **MAXSEAL® FLEX** waterproofing mortar reinforced with **DRIZORO® 58** fiber-glass mesh
- 3.- Placing of the low porosity tiles
 - a) **MAXKOLA® FLEX** flexible thin-layer adhesive mortar
 - b) **MAXJOINT® FLEX POOL** flexible pointing mortar

Carrying out of the waterproofing jobs



1

Surface preparation. Concrete must be fully cured and structurally sound. Before applying **MAXSEAL® FLEX**, remove any unbounded material and clean the surface from any material, which could affect the adhesion. Patch any surface damages such as defects, cavities, honeycombs, peelings with **MAXREST®** structural repair mortar.

Application. Apply two coats of **MAXSEAL® FLEX** using a brush, broom, roller, trowel or spraying means with a coverage of 1,0–1,5 kg/m² per coat and in perpendicular direction each other. Allow the first coat to dry at least 16 hours, depending on environmental and ventilation conditions. The total thickness for the application should be about 2 mm.



2

Tiling. Once **MAXSEAL® FLEX** has cured, place the low porosity ceramic tiles, non-porous or vitrified gresite, marble with the **MAXKOLA® FLEX** thin-layer adhesive mortar using a notched trowel with a estimated consumption of 1,5 kg/m² mm thickness and then, carry out the joint grouting using **MAXJOINT® FLEX POOL**. This system provides the most suitable solution for waterproofing of swimming pools wherein flexibility, high performance and durability with no maintenance are required.

Acrylic-based finish: **MAXSHEEN® POOL**, is a high quality water-based acrylic coating, resistant to UV-rays and designed for giving a decorative finish of swimming pools and structures subject to permanent contact with water. Apply a first coat diluting 4 parts of **MAXSHEEN® POOL** with 1 part of water, allow it to dry at least 4-5 hours and finally, apply a second coat without diluting. Estimated consumption for **MAXSHEEN® POOL** is about 0,125–0,175 kg/ m² per coat.



3

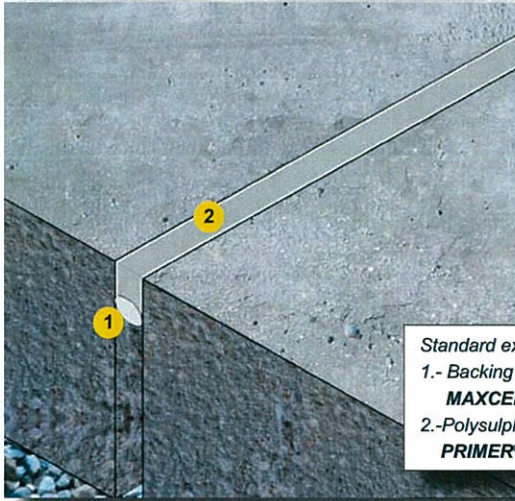
Curing. Observe a curing time of 14 days at 20 °C and 50 % R.H. for permanent immersion applications. Lower temperatures or higher R.H. increase the curing time.



4

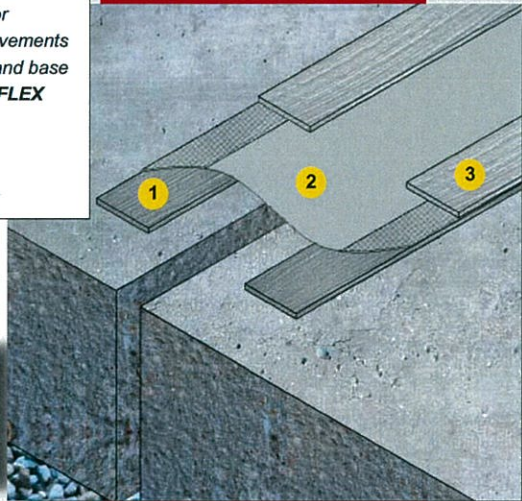
Out-Standing points

1 Treatment of joints

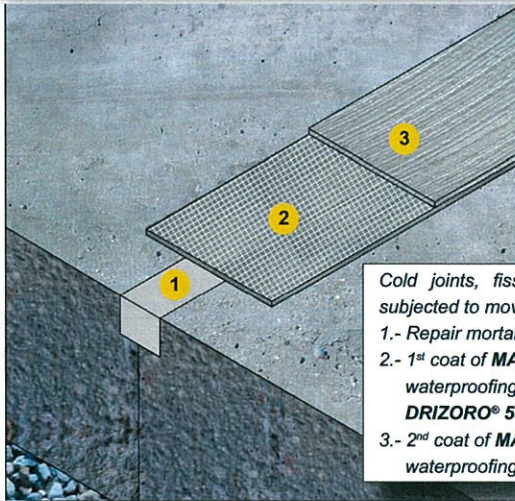


Big expansion joints or subjected to large movements
 1.- Bonding material and base coat: **MAXSEAL® FLEX**
 2.- Elastic band: **MAXFLEX® XJS**
 3.- Top coat: **MAXSEAL® FLEX**

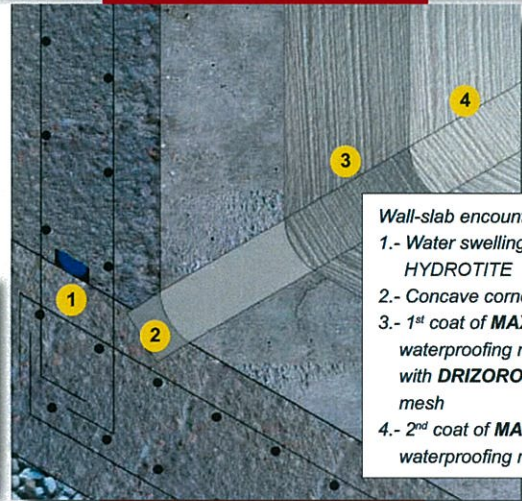
Standard expansion joints:
 1.- Backing rod: **MAXCEL®**
 2.- Polysulphide-based sealant: **PRIMER® 900 + MAXFLEX® 900**



2 Treatment of out-standing points

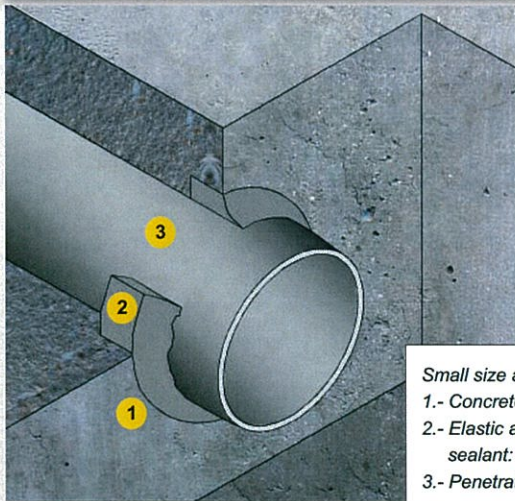


Cold joints, fissures and cracks non-subjected to movements
 1.- Repair mortar: **MAXREST®**
 2.- 1st coat of **MAXSEAL® FLEX** waterproofing mortar reinforced with **DRIZORO® 58** fibre-glass mesh
 3.- 2nd coat of **MAXSEAL® FLEX** waterproofing mortar



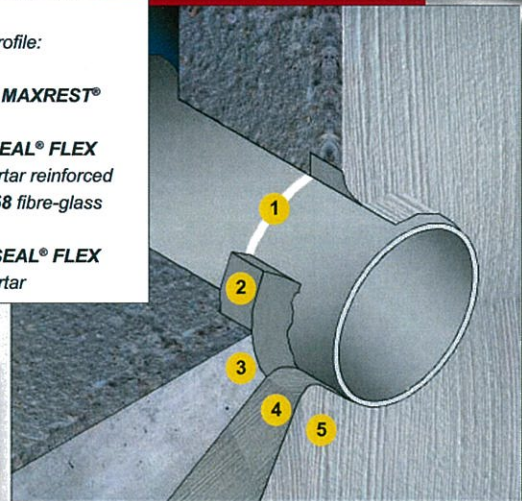
Wall-slab encounters
 1.- Water swelling profile: **HYDROTITE**
 2.- Concave corner: **MAXREST®**
 3.- 1st coat of **MAXSEAL® FLEX** waterproofing mortar reinforced with **DRIZORO® 58** fibre-glass mesh
 4.- 2nd coat of **MAXSEAL® FLEX** waterproofing mortar

3 Treatment of penetrating pipes



Metal pipes:
 1.- Water-swelling profile: **HYDROTITE**
 2.- Concave corner: **MAXREST®**
 3.- Substrate
 4.- 1st coat of **MAXSEAL® FLEX** waterproofing mortar reinforced with **DRIZORO® 58** fibre-glass mesh
 5.- 2nd coat of **MAXSEAL® FLEX** waterproofing mortar

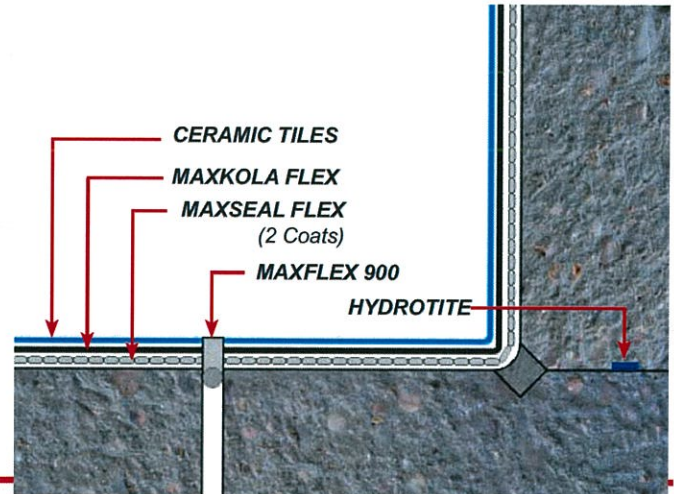
Small size and PVC/plastic pipes:
 1.- Concrete substrate
 2.- Elastic and cement-based sealant: **MAXJOINT® ELASTIC**
 3.- Penetrating pipe



Out-standing points

Salient steel from the wall 4

- 1.- Make a groove around the pipe and retire the PVC cone and part of the tube.
- 2.- **MAXREST**, structural mortar until a flat surface
- 3.- 1st coat of **MAXSEAL® FLEX** waterproofing mortar reinforced with **DRIZORO® 58** fibre-glass mesh, covering a surface of 20x20 cm.
- 4.- 2nd coat of **MAXSEAL® FLEX** waterproofing mortar



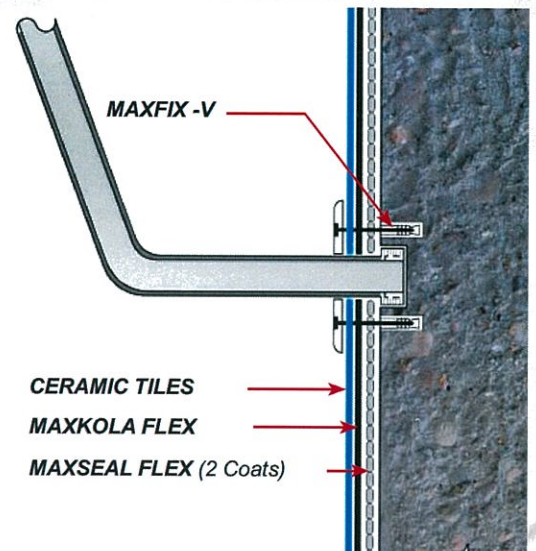
Anchoring of elements 5

Horizontal elements:

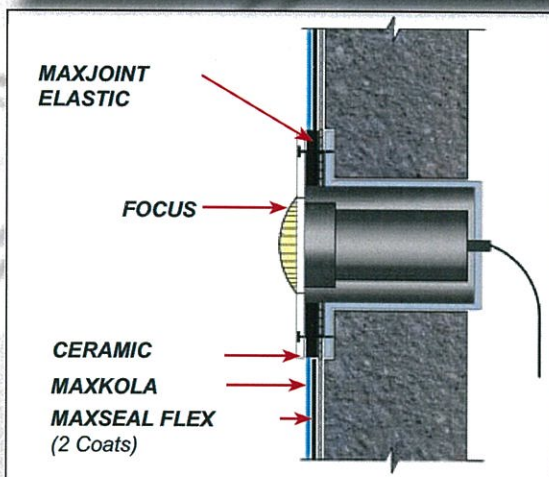
- Small elements ($10 < \varnothing$ (mm) < 16): **MAXGRIP®**
- Big elements ($\varnothing > 16$ mm): **MAXGROUT®** or **MAXFIX® -V** chemical resin packed in a cartridge

Vertical elements:

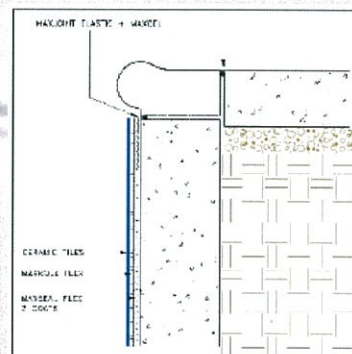
- Stairs, focus, etc: **MAXBETON®** or **MAXPLUG®** quick-setting and thixotropic mortars, or **MAXFIX® -V** chemical resin packed in a cartridge.



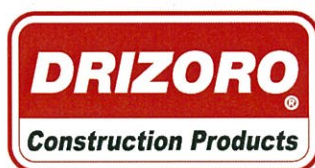
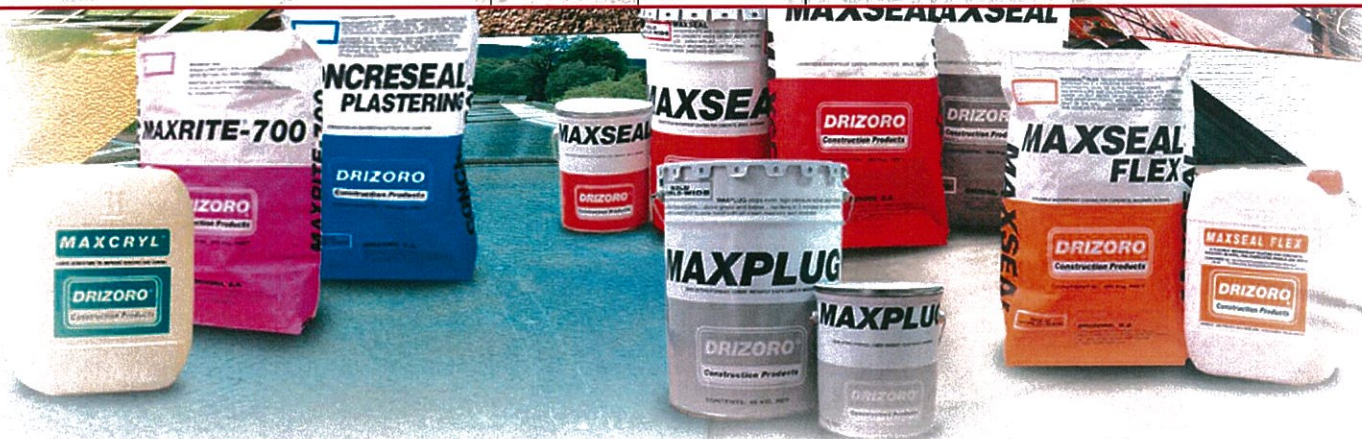
Sealing of elements: focus, skimmers, drainages, ornamental elements, kerbs 6



- 1.- **MAXCEL®** backing rod.
- 2.- **MAXJOINT® ELASTIC** two-component and cement-based elastic sealing mortar



DESCRIPTION	APPROXIMATED CONSUMPTION	PACKAGING	APPLICATION FIELDS
MAXSEAL® FLEX Flexible, cement-based, waterproof and protective coating of concrete structures and masonry subjected positive, negative hydrostatic pressure conditions or both. Suitable for drinking water. Pigmented version: MAXSEAL® FLEX DECOR .	2,00 - 3,00 kg/m ²	Pre-weighed sets Standard: 35 and 7 kg Smooth: 32 and 7 kg	Waterproofing of below grade concrete structures and masonry subjected to negative hydrostatic pressure: Tunnels, galleries, basements, retaining walls, etc. Waterproofing of drinking water tanks, reservoirs, swimming pools, channels and dams. Waterproofing and protection against weathering of façades, traditional brick façades, ceramic and concrete block masonry units, pre-fabricated panels, etc.
MAXSHEEN® POOL Flexible, acrylic-based, waterproof and decorative coating with fungicide and bactericidal properties. For swimming pools, ponds and fountains.	0,25-0,35 kg/m ²	25 kg and 5 kg drums	Protection and decorative finishing of surfaces in permanent contact with water: swimming pools, ponds and fountains.
MAXREST® Non-shrink, thixotropic, fast-setting, structural repair mortar.	0,15 - 0,17 kg/m ² and mm of thickness	25 kg bags and drums 5 kg cans	Repair and restoration of concrete structures and façades; Cornices, corbels, lintels, raincaps, decorative elements, etc and cracks, fissures and honeycombs. Filling of joints previous to waterproofing works. Restoration of damaged lines and shapes of elements.
MAXPLUG® Quick-setting hydraulic mortar for stopping of water leaks under hydrostatic pressure.	1,67 kg/l	25 kg drums and 5 kg cans	Stopping of active water leaks with high hydrostatic pressure in above or below grade jobs: Basements, tunnels, foundations, reservoirs, tanks. Sealing of concave corners or joints in waterproofing jobs. Below grade water applications. Anchoring of bolts and other accessories.
MAXJOINT® ELASTIC Two component, elastic mortar for sealing joints and cracks subject to movement in concrete and masonry.	0,13 kg/m per 10x10 mm joint	10 kg pre-weighed sets	Sealing of vertical and horizontal joints and fissures subjected to movement up to 15% in pre-fabricated elements, façades or joints in permanent contact with water: Swimming pools, channels, pipelines, water tanks, reservoirs, waste water treatment plant, etc. Repair of fissures and cracks subjected to movements in tanks, swimming pools, etc. Sealing of penetrating pipes and decorative or functional elements in permanent immersion.
MAXFLEX® 900 Two component, low modulus, high chemical resistant, polysulphide-based, elastomeric sealant of permanent contact with water.	100 ml/m per 10x10 mm joint	2,5 l pre-weighed sets	Sealing of joints in concrete and masonry: Water tanks, channels, irrigation ditches, traps, swimming pools, waste water treatment plants, etc. Sealing of expansion joints in industrial floors: chemical industries, breweries, daily plants, etc.
HYDROTITE Water swelling profiles for the sealed of joints and cracks in permanent contact to water.	---	Rolls	Sealing of working and expansion joints in concrete subjected to permanent immersion. Reparation of cracks and fissures in swimming pools, tanks, basements, etc. Sealed of joints between pre-fabricated elements. Sealed of joints in reinforced concrete walls and foundation slab. Sealed of passing pipes through the walls.
MAXKOLA® FLEX Flexible, thin layer, high performance, one component, cement-based bonding mortar for non porous tiles on traditional masonry, blocks, renders and non rigid substrates in interior and exterior applications.	1,5 kg/m ² and mm of thickness	25 kg bags	Tiling and paving over exterior and interior walls and surfaces subjected to movements with low porosity tiles of kitchens, wet rooms and bathrooms in housing hospitals, hotels, laboratories, etc. Fixing of ceramic tiles in exterior applications: Façades, roofs, patios, terraces, balconies, etc. Ceramic coating of swimming pools with vitrified ceramic, natural stones, gres, marble, big format pieces, etc.
MAXJOINT® FLEX POOL Flexible, waterproof, high performance, pigmented cement-based, repair and pointing mortar for joints of ceramic on non rigid substrates. Available in different colours.	1,7 kg/l	25 kg bags	Restoration of joints in old ceramic tiles. Pointing of tiles in swimming pools. Flexible and compatible system in combination with MAXKOLA® FLEX
MAXFIX® -V Fast curing, two component, vinyl ester-based, fastening, anchoring and bonding resin for anchors into concrete and solid or hollow masonry.	Depending on size and depth of the hole	380 ml two-part biaxial type cartridges	Fastening, anchoring and bonding of anchor plates, metal structure angles and profiles, to hardened concrete and hollow or solid masonry. Anchoring of reinforcing bars, anchors on ventilating façades, banisters, rails, installations, lift rails, bathroom fittings, awning, lights, street furniture, street lighting, etc. Placing of fences.
MAXFLEX® XJS Elastic sealing system for expansion joints, corners or cracks, consisted of elastics strips with lateral geotextile fleece edges. Available in different widths.		Rolls of 50 m, 30m and 20 m length, depending on the width	Sealing of big expansion joints for interior or exterior applications: Channels, water tanks, reservoirs, waste water treatment plants, roofs, basements, foundations, silos, etc. Sealing of active cracks, corners, etc.
MAXBETON® Fast-setting, non-shrink, thixotropic, one component, anchoring and fixing mortar for construction elements.	1,8 kg/l	25 kg bags	Fixing and anchoring of pipes, bathroom fittings, ventilating façade elements, fences, frames any other construction elements in vertical and horizontal applications. Sealing of penetrating pipes, drainpipes, etc. Stopping of small water leaks. Filling of grooves and concave corners.



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