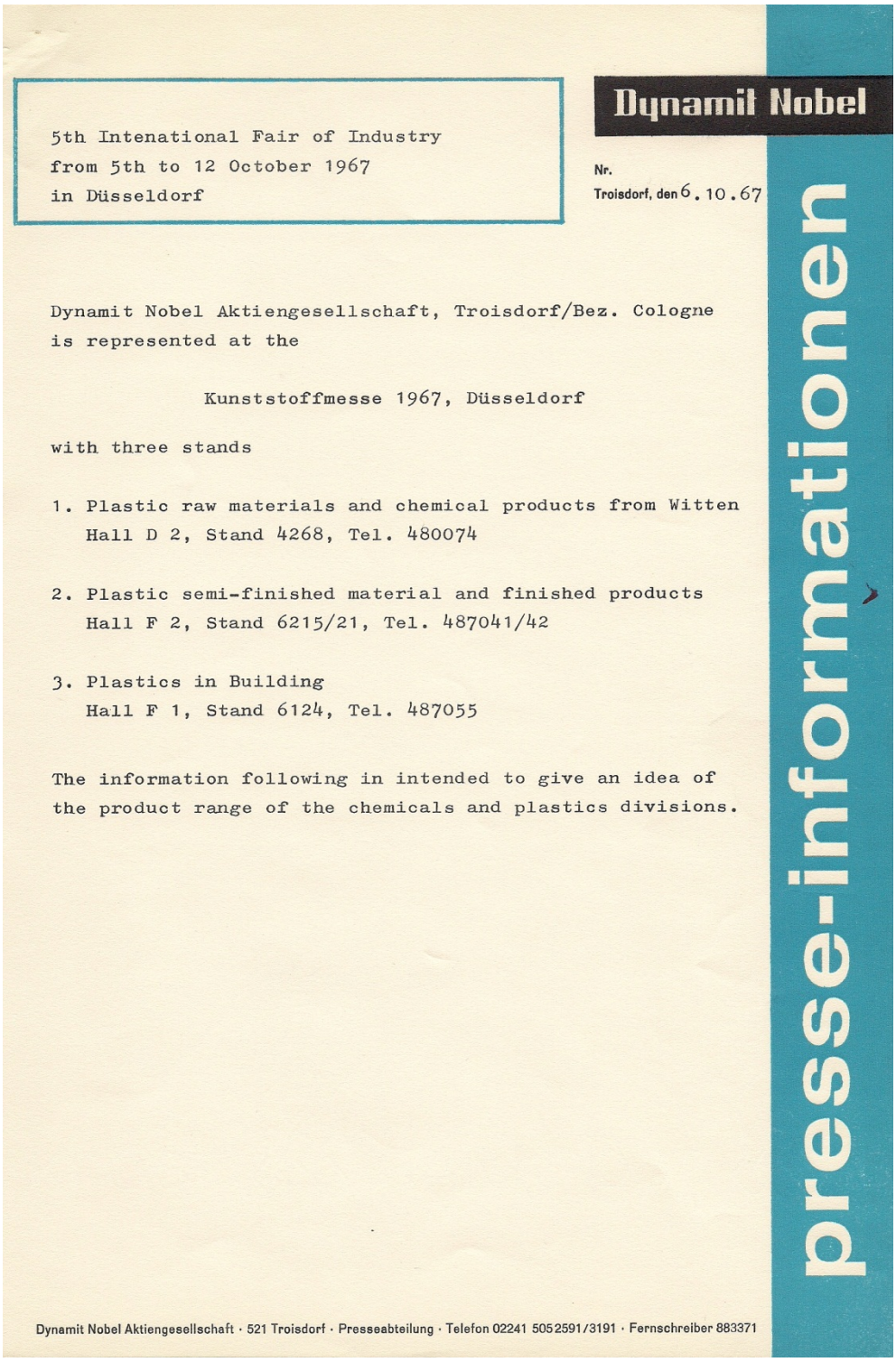
Presseinformationen anläßlich der Kunststoffmesse 1967 in Düsseldorf vom 6.10.1967

Dynamit Nobel AG war mit drei Ständen vertreten:

- Kunststoff-Rohstoffe und Chemikalien

- Kunststoffhalbzeuge und Fertigerzeugnisse

- Kunststoffe für das Bauwesen



5th Intenational Fair of Industry
from 5th to 12 October 1967
in Düsseldorf

Dynamit Nobel

Nr.
Troisdorf, den 6. 10. 67

presse-informationen

Dynamit Nobel Aktiengesellschaft, Troisdorf/Bez. Cologne
is represented at the

Kunststoffmesse 1967, Düsseldorf

with three stands

1. Plastic raw materials and chemical products from Witten
   Hall D 2, Stand 4268, Tel. 480074

2. Plastic semi-finished material and finished products
   Hall F 2, Stand 6215/21, Tel. 487041/42

3. Plastics in Building
   Hall F 1, Stand 6124, Tel. 487055

The information following in intended to give an idea of
the product range of the chemicals and plastics divisions.

Dynamit Nobel Aktiengesellschaft · 521 Troisdorf · Presseabteilung · Telefon 02241 5052591/3191 · Fernschreiber 883371

Plastic Raw Materials

Dynamit Nobel offer a safe version of nitrocelluslose, the well tried raw material of the paint industry.

Plasticized nitrocellulose.

New on the market, round, pourable, fine and abrasion-resitant granulation, high bulk-density, free from moisture or alcohols. The new structure of the material offers considerable advantages especially in the coating of cellophane, paper, plastic films and aluminium foils.

Phenolic resin, in the cured state, is a binder of considerable thermal stability. The Boron Resin B 1200 developed by Dynamit Nobel has however a thermostability that is approximately 50° C higher and that has proved extremely useful in recent years in the manufacture for example of discbrake linings.

B 1200 is supplied as alkohol soluble resin that can be rendered into powder form. It can be processed both by the mix method and by the wet impregnation method with fillers etc. The high temperature stability an the superb mechanical strength, in the cured state, are characteristic for this resin.

Phenolic injection moulding compound TROLITAN(R) SUPER DS has universal application and is the first thermosetting raw material suitable for conversation on injection moulding machiners, hitherto the preserve of thermoplastics. These new moulding compounds retain their injection moulding properties even at elevated plastification and preheating temperatures without curing prematurely and over a long of time so that the maximum of operating reliability is offered. Since the Trolitan Super Ds compunds rapidly cure during mould injection under normal temperatures, the simultaneously offer the advantage of greatly shortening the curing time.
Because of the wide applications of TROLITAN SUPER DS, the machines can be economically used both for complicated small parts and for large casings (for example hoods for hair driers).

The new material exhibits the characteristics specified in DIN 7708 like conventional moulding compounds. Items injection moulded from the product have a wonderful surface finish and high gloss as well as exellent dimensional stability in heat and little press and post-shrinkage.

The glass fibre filled phenolic moulding compound TROLITAN^{R} 6520 D is a new development especially for precision mouldings, for example for electronic data processing machinery. By means of a special technique, TROLITAN(R) 6520 D is produced as a dust-free round grain that can be readily poured and that has a high bulk-density.

As a result of the filler used, even the smallest sections show very high mechanical strength even at the thinnest parts and the finest contours.

The very high dimensional stability in heat (Martens approximately 180^{o} C) should also be emphasized.

The compound can be tabletted and is suitable for processing on both conventional presses an injection moulding machines. 160-167^{o}C is recommended as the optimum processing temperature.
A rigid PVC injection moulding compound TROSIPLAST $^{(R)}$ was developed especially for the production of thin-walled injection moulding with long blanks of flow. It possesses the good mechanical properties expected of such a product. Sections moulded from it are distinguished by a uniform glossy surface provided, of course, that the appropriate moulding conditions have been employed. From this injection moulding compound, luminated ceiling elements for air-conditioned lebraries in Canada were prepared for the first time. Such luminated ceilings are full of promise, because building authorities of many countries specify the use of materials with low inflammability.

High impact resistance, glass-clear rigid PVC blow moulding compound TROSIPLAST $^{(R)}$

With the increasing use of rigid PVC bottles in the packaging sector, the demand for bottles with high impact resistance and yet
glass-clear transparency is becoming greater and greater. The increase in impact resistance must not be accompanied by greater opacity. Dynamit Nobel have met this requirement by newly developed impactresistant TROSIPLAST rigid PVC blow moulding compounds which are supplied in agglomerate or granulate form. Bottles product from these compounds resist drops of up to 1.80 m (6 ft.) a test in which filled bottles are dropped on to a steel plate from varying heights. Glass-clear, high impact restistant bottles blow moulded from TROSIPLAST Blow moulding compounds are used particularly in cosmetics packaging.

Soft PVC Blow moulding compounds TROSIPLAST(R) Toy figures from soft PVC previously used to be produced from pastes. The blow moulding of our compounds however has provided a more economic method of operation and thus a more profitable production. This product has become popular for its use in the "Mainzelmännchen" series.
For the new rotary melt process for the production of mouldings, Dynamit Nobel have developed a soft PVC specialty which they market under the name Rotary Compound TROSIPLAST(R) and which is already being widely used in the car industry, for example for the production of arm rests In this application, the product fully meets the requirements for low temperature resistance and low plasticizer volatility.

A wide formulation spectrum has also opened up for this material the upholstery and toy industry.
Rigid PVC Compounds TROSIPLAST(R) C with high thermal stability (C=post=chlorinated).
Dynamit Nobel is the first manufacturer in the Common market to produce, on a large scale, granulate from post-chlorinated PVC.

Mouldings made from this product, compared with standard PVC, have a thermal form stability that is 35° C higher. Grades for both injection moulding or extrusion are available.

TROSIPLAST(R) C is stable in particular against acid, oxidizing and halogen-containing media. It has very low inflammability and can be readily welded, bonded and printed. The injection moulding grade, for the first time, permits releable production even of thinwalled fittings for hot effluents.

The extrusion compound is used for example for the production of profiles for transport systems hot, chlorine-containing brines. Such systems from TROSIPLAST(R) C have replaced rubberized iron and have proved themselves over a number of years.

Injection Moulding Compounds TROGAMID(R) T

Under this description, Dynamit Nobel have marketed a new polyamide based on terephthalic acid or dimethylterephthalate and a brancheol contrarily to traditional polyamides this new polyamide is amorphons and is distinguished by a
number of special characteristics, especially the outstanding transparency which is maintained even under thermal stress.
Other characteristic are the outstanding dimensional stability in temperature and humidity extremes, the low moisture absorption and the low creep and shrinkage tendency. The high shape retention, hardness and compressive strength as well as the outstanding thermal forming stability according to Martens should also be emphasized.
Because of its broad softening range, TROGAMID(R) T can be converted on conventional injection moulding machines without difficulty, fabricating temperatures of 240 to 310°C, depending on injection moulding equipment and moulding, being essential.

The application of TROGAMID(R) T brings advantages especially where its outstanding mechanical and electrical properties,

in conjunction with low water absorption, high dimensional stability and good transparency, can be utilised even in the presence of great wall thicknesses. General application examples are injection mouldet beating and pump parts, various types of eheels, transmission components, pushbuttons and casing and scale covers. In the application of TROGAMID(R) T in the electrical industry, the outstanding insulating properties, the creep current strengh in conjunction with the minimal changes in electrical properties in the presence of moisture, and the stability to plasticizers (dioctylphthalate and diisooctylphthalate) are of considerable importance. TROGAMID(R) can therefore be used in this field for the production of bobbins, terminales, switch parts, insulating plates, screen parts bearing jacks etc.

Plasticizers

Chemische Werke Witten of Dynamit Nobel has for many years devoted itself to the field of PVC plasticizers and can offer a range of product to satisfy every technical requirement:

Non-mi-grating Plasticizers

Witamol 600 (oligomeric phthalate) and
Witamol 615 (polypropylene glycol adipate)

Heat-resistant Plasticizers:

Witamol 70 (tetra fatty acid pentaerythritol ester)
Witamol 180 (diisodecylphthalate)
Witamol 190 (diisotridecyphthalate) and
Witamol VP 112 (di-n-alkylphthalate)

Low-temperature resistant Plasticizers:

Witamol 60 (polyglycol fattyv acid ester) and
Witamol 110 (Di-n-c7- 10-phthalate)

Chloroparaffine:

Chloroparaffin Witten K 50 (approx. 50% chlorine) and
Chloroparaffin Witten K 71 (approx. 71 % chlorine)

Terephthalic-acid cintaing polyesters

As a weöö known of dimethylterephalate (DMT) Dynamit Nobel is edndeavouring to opem up for this material new applications additional to those in the fibre and film industry. The constructions of the companyowned polycondensation plant allows not only the production of polyethylene terephthalates (PETP) but also the production of various mixed polyesters. These high molecular polyesters for instance of particular importance for two applications:

For use as melt adhesive raw materials, a number of polyesters with a wide melting range of from 80 - 150° C is produced.

These are differentiated in their melt viscosity and suitable for a variety of uses such as in the furniture industry, shoe industry etc. In addition, Polyester Witten T 388 offers a crystallizable polyester with a melting range of 190 - 210° C which has been develeoped especially for the difficult subject of adhesive lasting in the shoe industry.
With Polyester Witten T 203, the paint industry has beeb offered abinder that is distinguished above all by outstanding adhesive properties. The product can be punched and deep drawn and can therefore be used with advantage in toll-coating. Being a thermoplastic, T 203 can b4 hot sealed. In addition, it exhibits good light fastness, weather resistance and stability to alcohol.

Because of ots great adhesive strength, Polyester Witten - T 203 is also recommended for use as binder in intaglio printing inks.

Electrical insulation lacquer resins

In the field of electrial insulation lacquers, Dynamit Nobel markets a number of terephthalat resins under the name ICDAL TE which will resist temperatures of up to 155° C. Four different types are available which differ in their reactivity so that all the rewquiremets made upon this type of lacquer can be fully met.
ICDAL TI 40 (previously known as VP 6040 j 2) is in additional an imide-group containing resin which has a maximum temperature stability of 180° C and thus is able to meet even higher demands.

Product 6162 A, to be shown for the first time at K 67, is a new development and a resin with an even higher temoerature resistance of approximately 210°C so that even the most exacting demands of the industry can be satisfied.

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contains various impregnating lacquer resins among which a hydroxyl group containing terephthalic polyester market under the description product 1901 deserves particular mention. This hydroxypolyester permits the production of insulating lacquers in accordance with VDE standard 0360 or DIN 46 456 with a maximum temperature stability of 155°C.

Synthetic lacquer resins

For many years now, Dynamit Nobel has offered the lacquer industry a balanced range of fatty acid modified alkyd resins which are marketed under the trade name ICDAL. The experience gained by the company in the field of fat splitting and esterification has been applied to these products. Through the selection of especially pure fatty acids the company is in a position to provide resins with a high degree of resistance to yellowing. Apart from these solvent-containing resins, Dynamit Nobel is intensely engaged in the development of water-soluble resins. A water soluble alkyd resin USA 6527 is supplied dor conventional processing. For electric dip lacquering, a water-soluble epoxy resin WSE 1538 ester with high chemicalresitance is offered.

Plastic foils for fuel tank safety

Interior linings for the prevention of leaks in fuel tanks have been used for several years with considerable success. The MIPOPLAST special double foil is not affected by commercial grades of heating fuel, type EL, nor by diesel fuels. The quality of this foil lining complies with legal regulations; its function as special foil has been tested and approved by the Physikalisch-Technische Bundesanstalt of Braunschweig in collaboration with the Technischer Überwachungsverein of Hamburg. As an additional feature, fuel tanks having a MIPOPLAST special foil lining are protected against corrosion. This type of leakage prevention is particularly recommended for underground storage tanks that have been installed for some time;+ unearthing of the steel tank is unnecessary.

Printing and drawing

Hard sheets from PVC or vinyl copolymers, known for many years under the trade name ASTRALON, have rapidly become accepted as the result of their outstanding clarity and dimensional stability in the production of drawing and measuring implements. Recently these products have greatly consolidated their position in this field. ASTRALON sheets of impact resistant PVC serve in the production of traffic signs and nameplates of all types. Tent windows, rear windows of convertibles and in particular large factory doors are produced from soft ASTRAGLAS sheets. ASTRAPRINT plates form a wide range of their own. The plates provided under this name are suitable for the production of duplicate blocks, sound records and galvanos.

Celluloid and Cellon for the optical industry

In the optical industry Dynamit Nobel has long occupied a leading position as the supplier of celluloid. In this field Dynamit Nobel will even strengthen its position by offering the wide range of Cellonex which offers many welcome advantages in the manufacture of spectacle frames. The two-coloured and multiple acetate

mouldings are now permitting designs, in conjunction with new colours, that were hitherto not possible.

As a special service Dynamit Nobel is now offering advice to its customers, especially during the design phase, also for special accessories in the ornament industry.

The "dynapac" range of Dynamit Nobel films covers almost all types of packaging:

Rigid PVC calendered films	-	TROVITHERM (R)
Rigid PVC extruded films	-	TROVILON (R)
Soft PVC extruded films	-	MIPOPLAST (R)
Polystyrene films	-	TROLITUL (R)
Polyethylene blown films	-	TROLEN (R)
Polyamide films	-	TROGAMID T (R)
Composite films	-	DYNANOM

Realising that plastics are fast becoming an indispensable component of modern retailing, Dynamit Nobel has given a great deal of attention to packaging problems. Where wine bottles, glasses, porcelain, foodstuff, body-care products, technical articles, etc. are involved, the "dynapac" Packaging Service is available with advice to the packaging industry.

Furniture industry and interior decoration

The supply of plastics for furniture industry and for interior decoration has long formed part of the programme of Dynamit Nobel, originally initiated with the production of laminated boards marketed under the trade name ULTRAPAS. In the meantime this range has been supplemented by door coverings based on soft PVC, PVC profiles and edging, as well as PVC sheeting for the lamination of furniture surfaces. These materials are antistatic and can be handled both industrially and by normal carpentry methods. A range of finished mouldings, either injection or compression moulded, is also available. This includes writing cases, drawer cupboard doors, guide strips and cable clips.

ULTRAPAS-KF is a new favourably priced plastic veneer. The demands of the furniture industry and craftsmen for a reasonably priced, robust and easy-to-handle plastic veneer lead to the development of the new antistatic ULTRAPAS-KF.
ULTRAPAS-KF may be processed with existing tools and machinery, and in conjunction with conventional glues and adhesives used in both the furniture industry and by craftsmen. The characteristics of ULTRAPAS-KF permit combinations with materials such as chipboard, plywood, hardboard, solidwood, metals. ULTRAPAS-KF may also be used for lining of edges. The plasticity of ULTRAPAS-KF enables special shapes to be obtained.

The new ULTRAPAS-KF may be easily cleaned with all conventional cleaning materials which are free from sand.

The basic designs include three plain colours and six wood reproductions.
Dimensions:
Lengths 100 ft. and 330 ft. (for industrial laminating plants, also available in greater lengths)
Width 4 ft. 2 in. (1260 mm)
Thickness 0.01 in. (0,25 mm)

Foam

TROVIPOR is an open-pore soft PVC foam which, as a result of the raw material upon which it is based, can be high-frequency welded. This feature, together with the other outstanding characteristics such as elasticity, compression resistance and edge stability, renders the material suitable for economic manufacture. Whereas other plastic foams necessitate the application of adhesives for combination with plastic foils, etc. TROVIPOR is simply welded, whereby complicated stitching methods are avoided; in addition, the weld seam is virtually indestructable.

Plastics semi-finished material and finished components

Injection moulded and cast mouldings.

As a converter of plastics, Dynamit Nobel has considerable experience in the production of compression and injection moulded parts. It offers a wide range of products from casings for televisions and heaters for cars to refuse bins. Dynamit Nobel is able to produce such parts from many other fields working from customers drawings. The Company is well known for its capacity in this field which includes a modern mould shop and design office.

Rheinisches Spritzgusswerk Weissenburg of Dynamit Nobel has been producing injection mouldings from thermoplastics to customers specifications for more than thirty years.

Mainly high-grade technical parts from various injection moulding compounds and for almost all applications are produced. They are used in machinery, apparatus and instrument constructions, the photo industry, optical industry, precision engineering, electrical industry, accumulator constructions, etc., in fact wherever the highest requirements are made upon precision, quality and execution. Technical packings are also available.

Plastics in the electrical industry

Dynamit Nobel plastics can be found in all fields of the electrical industry. This applies both to the raw material and to semi-finished material and finished mouldings. Dynamit Nobel has paid particular attention to the further development of Trolitax hard paper which is confined not only to a number of standardised types but which is also available in many special grades.

Recently decisive improvements in processing properties have been achieved without however affecting the mechanical and electrical characteristics which are far in excess of the standard values.

Trolitax hard paper with copper coating for the preparation of printed circuits is of particular importance for the electronics

industry. As the result of the use of newly developed raw materials an improvement in the finishing methods could be achieved.

Plastics for the constructions of apparatus and containers

When using materials in the construction of apparatus and containers, chemical resistance is the most important factor. It is incontestable that plastics are in most cases more resistant than metals, especially in the case of acids, alkalis, salt solutions and last but not least water. This is the reason why plastics play such an important part in the construction of apparatus and containers.

Plastics for the building industry

The building sector today absorbs by far the major amount of plastics. Dynamit Nobel plays an important part in this development especially when it is remembered that their plastic products include laminated panels for interior installations, floor coverings and water pipelines. The complete range also comprises plastics for roofing purposes, plastics for water-proofing membranes and window profiles:

TROCAL semi-round and square gutters from rigid PVC are supplied in various sizes and as a complete range. They are resistant to corrosion, impact, ageing and stable against extremes in temperature and climate. They are colourfast (grey), uniformly dyed and are easily assembled.

TROCAL roof-sheets from soft PVC can be laid in hot bitumen (type B) or as prefabricated sheets with loose gravel cover (type S). They are tear resistant, weather resistant and unaffected by corrosive agents. Since they do not swell nor rot they are especially suitable for flat roofs.

TROCAL waterproofing sheets from soft PVC are used to seal against static and running water. They are resistant to bitumen and fuel oil.

TROCAL pool lining sheets from soft PVC are a special grade for the lining of swimming pools and industrial and municipal reservoirs. They have a high elasticity strength and are both tear and algae resistant. They are not cemented to the walls of pools but fastened with an aluminium strip and welded one section to another.

MIPOLAM-Elastic-Profiles consist of square steel tubes with an overall mantel of soft PVC. They are suitable for the manufacture of windows, doors, separating walls and false fronts. They do not require painting and possess excellent sound and heat insulation. They offer increased joint sealing and supreme weather stability.

MIPODUR-Window-Profiles from impact resistant and homogeneously dyed rigid PVC are resistant to high and low temperatures, to corrosion and to climatic factors, acids, alkalis and seawater. They are cheaper than MIPOLAM-Elastic-Profiles but their use is limited to small and medium sizes (up to approximately 1 1/2 m2).

Further products for the building industry:

TROCAL corrugated sheets from rigid PVC

MIPOLAM hand rails from soft PVC

TROCAL ceiling profiles from rigid PVC

Apart from the traditional fields of water supply and drainage, plastic pipes are also gaining increasing importance in gas grids and in canalisation.

Water supply pipes in nominal widths 10 to 250 mm, supplied in the pressure stage 10 and, in part 16 kp/cm2-gauge, drain pipes and sections for sanitary installations, cable protection pipes and gas and canal pipes from PVC are shown. For drainage installations subject to a great deal of thermal stress a special range of pipes and mouldings from post-chlorinated PVC is available. This material is also suitable for the discharge of large amounts of effluent at boiling point.

MIPOLAM floor coverings

A few weeks ago the traditional range of homogenous PVC coverings was extended by a number of interesting and original new developments. The new types of covering have, without exception, a design that is not orientated in a particular direction. Dynamit Nobel began with the production of this novel type of plastic floor covering two years ago and has strictly followed this path in its new developments.

The new PVC floor coverings include MIPOLAM 520, particularly popular for its colour and design, MIPOLAM 660 of first rate quality with original design and MIPOLAM 110 having a new type surface design with a stone effect.

The latest new development in the MIPOLAM-PVC-flooring range is MIPOLAM 820 which, on account of its translucent colouring and direction free design, has already become exceedingly successful.

In line with general market developments, textile floor covering and carpets have recently been included in our production programme. The MIPOLAM floor covering range includes a fully synthetic felt, two tufted and three woven grades. The choice available has been deliverately confined to high grade qualities employing fully synthetic fibres.

With this increased range of homogenous PVC coverings, PVC composite coverings and carpets, Dynamit Nobel continues its tradition of realising maximum quality and good design in every group of products, thus offering consumers optimum economy.

Neben MIPOLAM-Elastic-Profilen aus Weich-PVC (seit 1954 produziert) wurden erstmalig kostengünstigere MIPODUR-Profile aus Hart-PVC, die späteren TROCAL-Profile, präsentiert.

Bearbeitet: Dr. Volker Hofmann, Troisdorf, 20. Juni 2011