

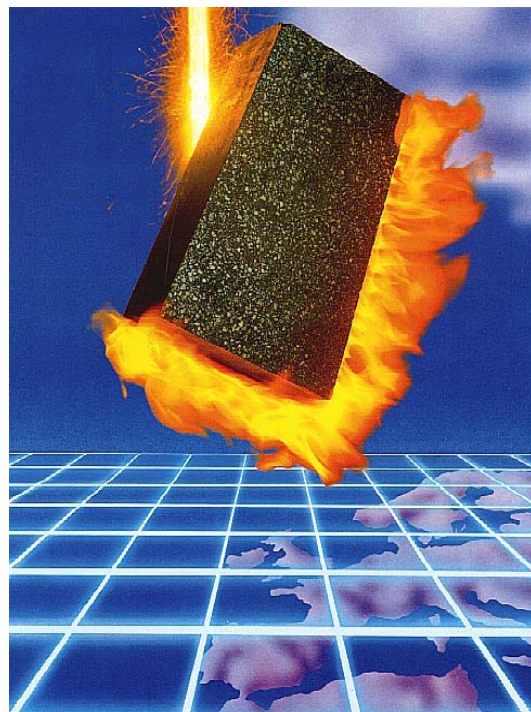


# PA resins ab

YOUR PARTNER FOR THE FUTURE

**PA RESINS AB has an extended portfolio of products designed to achieve the highest requirements in refractory applications.**

**More than 30 years in the refractory business allow us to understand the requirements of the industries.**





In former times carbon bonded refractories were generally manufactured using tar pitch as the binder. Since the Seventies a new type of bonding medium has been developed which replaced to a regionally different degree not only pitch bonding but could also partially enter those fields of application previously occupied by burned and chemically bonded brick. This new type of bonding medium and later on also of impregnation medium, is the phenolic resin, manufactured synthetically and therefore characterized by consistent properties.

Since their first industrial application, phenolic resins have attained significant importance due to several technical and environmental advantages. Their application has been increasingly extended to the following main groups of refractory products:

- |                |  |
|----------------|--|
| – Bricks       | Magnesia-Carbon, Dolomite, Mag/Dol<br>High alumina-Carbon (andalusite, bauxite, corundum)<br>High alumina-Silicon carbide-Carbon (ASC) |
| – Prefabs      | Purging elements, seating blocks, panels   |
| – ISO-products | Ladle shrouds, submerged nozzles, mono-block stoppers  |
| – Mixes        | Ramming mixes, tap hole mixes, repair mixes  |

This wide range of refractory products needs a variety of types of resins with different properties. The following page present overall information on the most applied resin grades of PA Resins AB divided into:

- Liquid Resols
- Novolac Powder with different Hexamine content and particle size distribution
- Novolacs in solution and Molten novolac
- Special systems e.g. Alkaline and furan solutions

Beside this list of resin brands PA Resins is always open for cooperation by meeting each customer's specific demands on existing products and for new resin bonded refractories. PA RESINS AB, a former PERSTORP company, has been involved from the beginning in the first trials and manufacturing steps of resin applications. Since that time resin brands have changed significantly by adapting their properties to meet the following requirements of the market:

- Qualitative aspects, especially carbon yield
- Customer's plant facilities
- Manufacturing conditions, especially mixing and pressing
- Hydration susceptible components
- Storage life
- Working stage and environmental aspects



## Powder resins

Grade	Flow Length ( mm )	Hexamine Content (%)	Seive Anaylsis, >45µm (%)	Free Phenol (%)
PA 7102G	15 - 20	8,7 - 9,3	8 - 14	< 0,5
PA 7232G	20 -26	8,5 - 9,5	20 - 30	< 0,5
PA 7857G	35 - 40	8,7 - 9,3	8 -14	< 0,5
PA 7556G	30 -40	8,5 - 9,5	1 - 5	< 0,5
PA 7557G	35 -45	8,5 - 9,5	2 - 6	< 0,5
PA 7135G	15 - 20	8,5 - 9,5	< 1	< 0,5
PA 7129G	18 -26	12,5 – 13,5	2 - 6	< 0,5
PA 7559G	15 - 19	13,7 – 14,7	2 - 6	Ca. 5
PA 7122G	16 - 22	12,5 – 13,5	20 - 30	< 0,5
PA 7856G	24 - 30	11,5 – 12,5	1 - 5	< 0,5



Grade	Flow Length ( mm )	Hexamine Content (%)	Seive Analysis, >45µm (%)	Free Phenol (%)
PA 7593G	24 - 31	11,5 – 12,5	< 1	< 1
PA 7115G	34 - 40	11,7 – 12,3	8 - 14	< 0,5
PA 7863G	40 – 50	11,5 – 12,5	20 – 30	< 0,5
PA 7133G	20 - 30	17 - 18	14 – 20	< 0,5
PA 7155R	14 - 20	17,5 – 18,5	8 -14	< 0,5
PA 7111G	14 - 20	6,5- 7,5	14 – 20	< 0,5
PA 7848G	70 - 100	3,2 – 3,8	2 – 10	< 1
PA 7127R	11 – 20 (9% Hexa)	< 0,5	8 -14	< 0,5
PA 7136R	90 – 110 (9% Hexa)	< 0,5	8 -14	< 0,5
PA 7137R	34 – 40 (9% Hexa)	< 0,5	8 -14	< 0,5
PA 7854G	19 – 23 (9% Hexa)	< 0,5	< 10	< 0,5



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## Liquid resins

Grade	Viscosity at 25°C /mPas	Solids /%	Water /%	Application
PA 5939R	5 000 - 6 000	60 - 66	< 1	Novolac in solution for ramming mixes, bricks etc.
PA 5122R	7000 - 8000	76 - 80	4 - 5	Novolac in solution.
PA 5121R	3500 - 4200	78 - 82	4 - 5	Liquid resole for brick etc.
PA 5547R	400 - 600	71 - 74	5 - 7	Liquid resole for bricks, sliding gates etc.
PA 5534R	350 - 450	52 - 56	< 0.5	Liquid furan PF resin for bricks etc.
PA 2146R	150 – 350 (100°C)		< 0.2	Molten Novolac
PA 2147R	400 – 600 (100oC)		< 0.2	Molten Novolac
PA 5561R	2700 - 3300	75 - 78	c. 17	Liquid resole for manufacturing shaped Refractories.