



SURFACE PROTECTION COMPOUNDS

WEAR AND FRICTION RESISTANT PRODUCTS

FEATURES

- Formulated to resist scratches, scuffs, and mar for better surface aesthetics
- Available in a number of resin and additive combinations

BENEFITS

- Maintain surface aesthetics throughout service life of part
- Reduce surface quality rejections and production scrap rate
- Eliminate costly secondary protective coating step
- Global availability

RTP Company Surface Protection (SPR) Compounds are formulated specifically to improve surface aesthetics by resisting scratches, scuffs, and mar on your plastic part or product. In addition, these compounds will help your plastic part or product maintain good surface appearance throughout service life. Our non-migratory SPR technology is added to a variety of resins and helps to reduce surface quality rejections during molding, assembly, packaging, and transportation, and eliminates costly, unnecessary secondary operations such as protective coating application.

Prior to testing, experts at RTP Company defined scratch and scuff/mar as follows:

- Scratch:** Gouging removal or forcible parting of material by sharp or protruding edges
- Scuff/Mar:** Damage to surface quality/aesthetics due to nano-scratches produced through contact with flat, rounded, or non-protruding surfaces, only visibly observable with no change in feel of the surface

Testing was then conducted using a Multi-Finger Scratch Tester on a range of materials. The width of the scratches were measured using an optical micrometer (see Table 1, below). Our SPR compounds showed excellent results in comparison to the unmodified base resins. In addition, these materials have shown improved surface hardness in pencil hardness testing (see page 2, Table 2).

TABLE 1: MULTI-FINGER SCRATCH DATA

Base Resin	Description	Scratch Width Measurement (in Newtons)				
		----- Increasing Load ----->				
		5 N	7 N	10 N	15 N	20 N
Polypropylene (PP)	Unmodified PP	Unmeasurable	Unmeasurable	6	18	18
	RTP SPR Modified PP	Unmeasurable	Unmeasurable	Unmeasurable	Unmeasurable	Unmeasurable
Nylon (PA)	Unmodified PA 6/6	Unmeasurable	Unmeasurable	11	12	14
	Unmodified PA 6	Unmeasurable	Unmeasurable	10	12	16
	RTP SPR Modified PA 6	0	0	Unmeasurable	Unmeasurable	Unmeasurable
Polycarbonate (PC)	Unmodified PC	9	11	15	18	19
	RTP SPR Modified PC	Unmeasurable	7	13	16	17
Acrylonitrile Butadiene Styrene (ABS)	Unmodified ABS	8	10	13	14	18
	RTP SPR Modified ABS	Unmeasurable	Unmeasurable	12	14	18
Polybutylene Terephthalate (PBT)	Unmodified PBT	0	Unmeasurable	10	15	17
	RTP SPR Modified PBT	0	Unmeasurable	Unmeasurable	Unmeasurable	12
Acrylic (PMMA)	Neat PMMA	Unmeasurable	Unmeasurable	Unmeasurable	Unmeasurable	Unmeasurable
	RTP SPR Modified PMMA	0	0	0	Unmeasurable	Unmeasurable

NOTE: Scratch width was measured in inches with optical micrometer at 100x magnification; 1 inch equals 25.5 μm. A scratch width listed as "Unmeasurable" indicates the scratch was not deep enough to produce defined ridges and could not be detected by a micrometer. A scratch width of "0" or zero indicates that no mark is visible with micrometer or light reflections.



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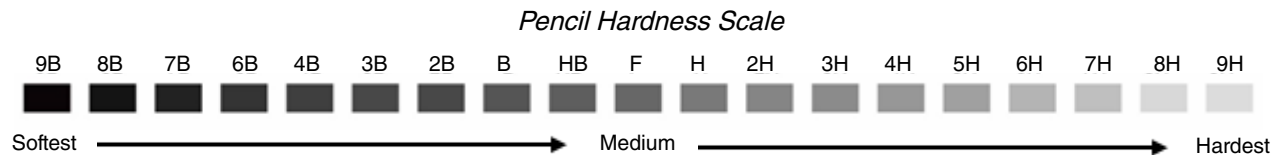


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Pencil Hardness Testing shows that SPR Compounds from RTP Company show excellent scratch resistance when compared to unmodified resin counterparts.

TABLE 2: PENCIL HARDNESS TESTING DATA

Unmodified Resin	Pencil Hardness Rating		SPR Compound
Polypropylene (PP)	3B	F	RTP SPR Modified PP
Nylon (PA)	B	H	RTP SPR Modified PA 6
Polycarbonate (PC)	2B	F	RTP SPR Modified PC
Acrylonitrile Butadiene Styrene (ABS)	3B	HB	RTP SPR Modified ABS
Polybutylene Terephthalate (PBT)	2B	F	RTP SPR Modified PBT
Acrylic (PMMA)	3H	5H	RTP SPR Modified PMMA



MARKETS

SPR Compounds from RTP Company are well suited for applications that need to withstand rough handling during molding, assembly, transportation, and throughout service life. The items below are just a few examples of products that benefit from the scratch and mar resistance of SPR Compounds.



Cosmetics packaging



Automotive exterior and interior components



Electronics housing

To learn more about Surface Protection Compounds from RTP Company, please contact your local representative, or visit our website at www.rtpcompany.com.



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